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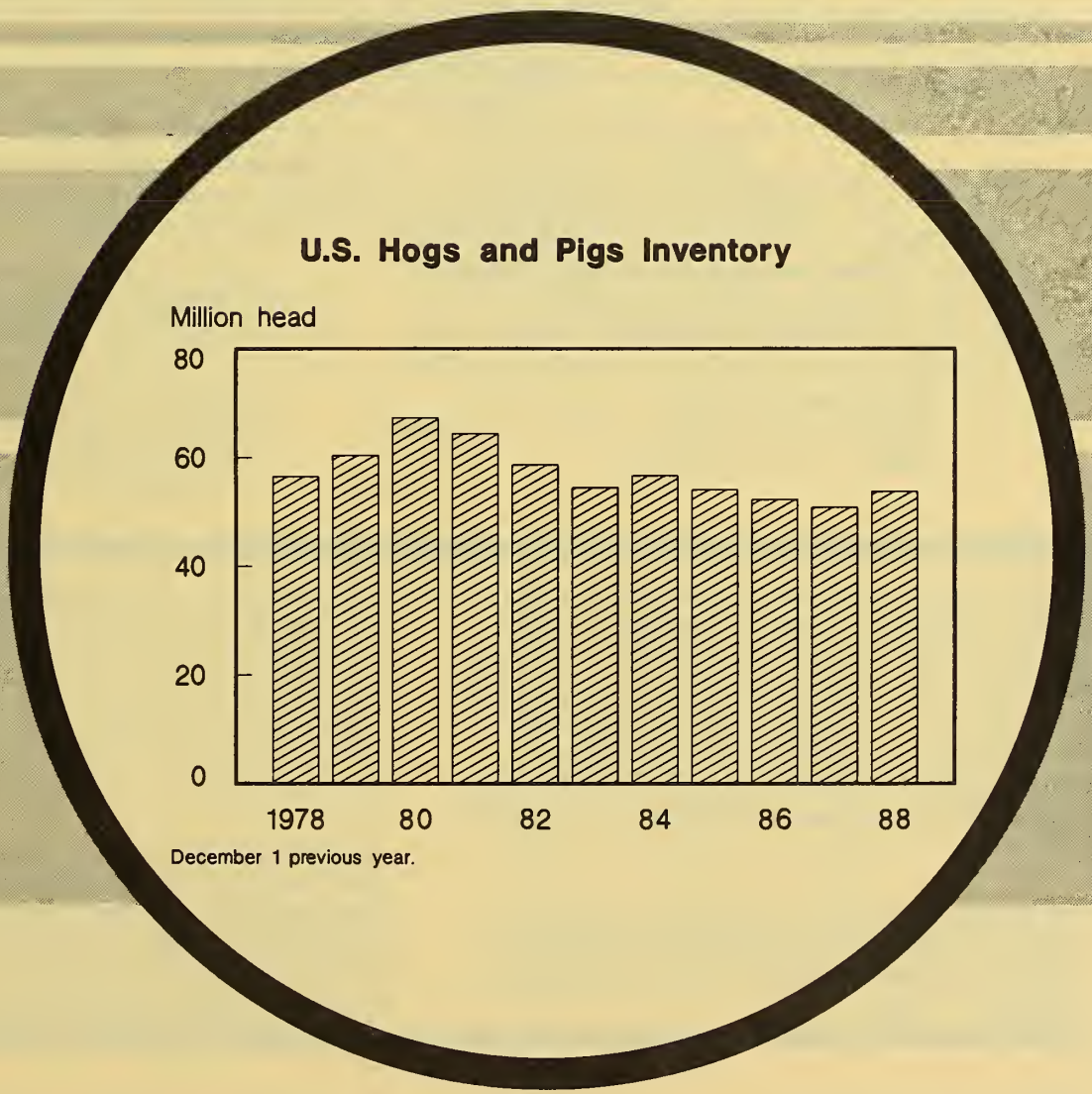
Situation and Outlook Report



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The present forecasts will be updated if needed in the World Agricultural Supply and Demand Estimates scheduled for release on February 9, 1988.

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Per capita red meat and poultry consumption in 1988 is forecast to be about 222 pounds, up nearly 5 pounds from 1987's record level. Economic growth in 1988 may be at about the same rate as in 1985–87. Larger meat supplies may more than offset any price strength from the growing economy.

Pork production in 1988 is expected to rise about 7 percent over 1987. This should result in lower barrow and gilt prices averaging $41 to $47 per cwt in 1988, compared to the low $50's in 1986 and 1987. The lower hog prices, along with a rise in feed prices, will likely push producers' net returns near the breakeven level after 2 years of relatively high returns.

Commercial cattle slaughter declined just over 4 percent in 1987, due mainly to a sharp drop in cow slaughter. Cow slaughter is expected to decline again in 1988, but fed cattle slaughter will remain at a relatively high level, particularly in the first half of the year. Beef production in 1988 may be down about 5 percent. Choice steer prices may average near the 1987 level as larger supplies of competing meats dampen gains in cattle prices.

Broiler production in 1988 is expected to be about 5 percent higher than in 1987, as the industry slows the rate of expansion in response to lower returns. In 1987, production was up about 9 percent, and wholesale broiler prices averaged 47 cents per pound in 1987, down sharply from 57 cents a year ago. With expanding production in 1988, broiler prices are expected to average 40 to 46 cents per pound.

Turkey production is expected to increase about 10 percent in 1988, down from an 18-percent rise in 1987. Wholesale turkey prices in the eastern region averaged 58 cents per pound in 1987, down from 72 cents in 1986. Prices in 1988 are expected to average 51 to 57 cents.

In 1987, *egg producers* increased production more than 1 percent from 1986. In 1986, egg production may decline about 1 percent from 1987, with all the decline in the second half. Wholesale New York Grade A large egg prices averaged 62 cents per dozen in 1987, compared to 71 cents in 1986. For 1988, egg prices are expected to average 58 to 64 cents per dozen.

Retail meat prices in 1988 are expected to average below 1987, as large total meat supplies drive down prices. Pork prices are expected to drop 5 to 7 percent, while beef prices may edge up slightly. Retail poultry prices as measured by the BLS Consumer Price Index are expected to decline 7 to 9 percent.

Table 1 -Livestock, poultry, and egg production and prices
(All percent changes shown are from a year earlier.)

Item	1986	1987					1988 1/				
	Annual	I	II	III	IV 1/	Annual 1/	I	II	III	IV	Annual
					Million pounds						
PRODUCTION											
Beef	24,213	5,755	5,737	6,063	5,870	23,425	5,625	5,600	5,725	5,400	22,350
% change	+3	0	-8	-3	-1	-3	-2	-2	-6	-8	-5
Pork	13,998	3,540	3,325	3,38	4,065	14,314	3,800	3,650	3,800	4,025	15,275
% change	-5	-1	-7	+5	+12	+2	+7	+10	+12	-1	+7
Lamb & mutton	331	76	75	77	82	310	85	80	80	85	330
% change	-6	-16	-4	-5	0	-6	+12	+7	+4	+4	+6
Veal	509	114	101	100	105	420	100	90	100	110	400
% change	+2	-12	-22	-22	-14	-17	-12	-11	0	+5	-5
Total red meat	39,051	9,485	9,238	9,62	410,122	38,469	9,610	9,420	9,705	9,620	38,355
% change	0	-1	-8	-1	+4	-1	+1	+2	+1	-5	0
Broilers 2/	14,266	3,732	3,910	3,966	3,875	15,482	3,950	4,175	4,150	3,950	16,225
% change	+5	+9	+6	+10	+9	+9	+6	+7	+5	+2	+5
Turkeys 2/	3,133	668	867	1,099	1,080	3,714	790	1,000	1,160	1,150	4,100
% change	+12	+20	+21	+16	+14	+18	+18	+15	+6	+6	+10
Total poultry 3/	17,929	4,533	4,932	5,193	5,090	19,748	4,880	5,330	5,445	5,230	20,885
% change	+6	+10	+9	+11	+11	+10	+8	+8	+5	+3	+6
Total red meat & poultry	56,980	14,018	14,170	14,81	715,212	58,217	14,490	14,750	15,150	14,850	59,240
% change	+2	+3	-3	+3	+6	+2	+3	+4	+2	-2	+2
					Million dozen						
Eggs	5,715	1,442	1,438	1,436	1,480	5,796	1,450	1,435	1,415	1,465	5,765
% change	0	+1	+1	+2	+2	+1	+1	0	-1	-1	-1
PRICES											
					Dollars per cwt						
Choice steers, Omaha, 900-1100 lb	57.75	60.46	68.60	65.04	64.31	64.60	62.66	64-70	62-68	62-68	62-68
Barrows & gilts, 7 mkts	51.19	48.11	56.18	58.97	43.51	51.69	46.46	42-48	41-47	39-45	41-47
Slaugh. lambs, Ch., San Ang.	69.46	78.05	90.82	72.90	68.36	77.53	75-79	75-81	67-73	66-72	70-76
					Cents per pound						
Broilers, 12-city avg. 4/	56.9	50.0	48.2	48.7	42.5	47.4	41-45	41-47	41-47	38-44	40-46
Turkeys, NY 5/	72.2	58.0	56.4	56.2	60.6	57.8	50-54	47-53	52-58	54-60	51-57
					Cents per dozen						
Eggs New York 6/	71.1	64.7	58.9	63.5	59.2	61.6	55-59	53-59	60-66	53-59	58-64

1/ Forecast. 2/ Federally inspected. 3/ Includes broilers, turkeys, and mature chickens. 4/ Wholesale weighted average. 5/ Wholesale, 8- to 16-pound young hens. 6/ Cartoned, consumer Grade A large, sales to volume buyers.

FACTORS AFFECTING LIVESTOCK AND POULTRY

Major uncertainties in the livestock and poultry industries for 1988 include the levels of economic growth, consumer spending, and exchange rates. Recent volatility in the stock market and the slide in the value of the dollar have increased pressures on fiscal and monetary policies. Despite these uncertainties, the general economic outlook has not changed significantly.

Real Gross National Product (GNP) is expected to grow about 3 percent in 1988, near the annual rate experienced in 1985–87. Although consumer confidence has fallen since the huge drop in the stock market, there are no firm signals that consumers are curtailing spending. The recent signals, such as Christmas sales and auto sales, are mixed. However, the economy continues to create jobs, 3 million in 1987. Many were in the manufacturing sector, which appears to be rebounding. On the other hand, given the heightened economic uncertainty and the large and expanding consumer debt load, a less robust growth in consumer incomes than expected could depress prices.

The dollar continues to slide against the world's major currencies, which make U.S. poultry and red meats more attractively priced for the export market. Poultry exports are being boosted by the Export Enhancement Program. However, export subsidy rates paid on poultry and pork exports by the European Community (EC) remain a concern.

The rate of inflation in 1988, as measured by the GNP deflator, is expected to be 3 to 4 percent, up slightly from 1987. Real interest rates are expected to be about the same as in 1987, while expected higher inflation will cause a small uptick in nominal interest rates. The prime rate averaged 8.3 percent in 1987. The higher inflation and interest rates will increase slightly the cost of livestock and poultry production.

Although production costs are expected to rise from the very favorable 1987 levels, they are expected to remain below 1984–86. Higher interest and inflation rates will put a slight upward pressure on costs, but the largest increases will be in feed costs. Corn prices in mid-December were 15 percent above a year ago. Prices averaged $1.50 a bushel in 1986/87, down 33 percent from 1985/86, but are expected to rise in 1987/88 to $1.65 to $1.85 a bushel. Although feed grain stocks were record large at the beginning of the 1987/88 crop year, they are expected to decline 14 percent this year. Soybean meal prices in December averaged about $215 a ton compared to $150 a year ago, an increase of 43 percent. Soybean meal prices averaged $163 a ton in 1986/87, but are expected to average $175–$205 a ton in 1987/88.

LIVESTOCK AND RED MEATS

Hogs

The profitability of U.S. hog operations diminished in the fourth quarter of 1987, and that trend will probably continue through most of 1988. Net returns will be down substantially from 1987, and may average only slightly above the breakeven level. Lower hog prices will account for the bulk of the decline, although higher feed costs are also expected to contribute.

Unlike the past 2 years, 1988 is not expected to offer any sustained period of substantial returns to pork producers, as increased pork supplies will limit seasonal price rallies. Feeder pig producers are likely to experience the largest year-to-year declines in profitability, with higher feed costs and lower pig prices squeezing margins from both ends. Finishing operations should fare

Farrow-to-Finish Cost of Production

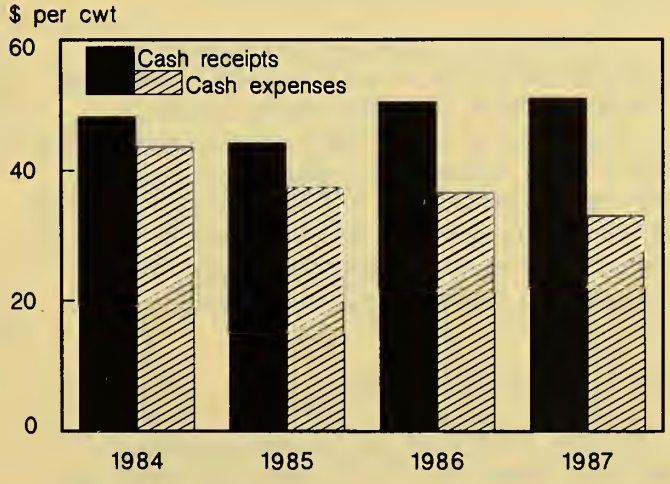


Table 2--Corn Belt hog feeding: Selected costs at current rates 1/

Purchased during: Marketed during:	Jan. May	Feb. June	Mar. July	Apr. Aug.	May Sept.	June Oct.	July Nov.	Aug. Dec.	Sept. Jan.	Oct. Feb.	Nov. Mar.	Dec. Apr.
Expenses: ($/head)												
40-50 lb feeder pig	47.00	53.96	54.98	56.00	51.66	45.89	45.60	48.05	47.28	41.53	36.56	31.74
Corn (11 bu)	15.40	14.63	15.62	16.61	18.15	18.48	17.49	15.84	15.95	16.83	17.71	18.92
Protein supplement (130 lb)	17.29	17.29	17.29	17.03	17.03	17.03	18.72	18.72	18.72	18.79	18.79	18.79
Total feed	32.69	31.92	32.91	33.64	35.18	35.51	36.21	34.56	34.67	35.62	36.50	37.71
Labor & management (1.3 hr)	10.61	10.61	10.61	11.13	11.13	11.13	12.19	12.19	12.19	10.61	10.61	10.61
Vet medicine 2/	2.59	2.59	2.59	2.64	2.64	2.64	2.67	2.67	2.67	2.70	2.70	2.70
Interest on purchase (4 months	1.74	2.00	2.03	2.03	1.88	1.67	1.67	1.76	1.73	1.55	1.37	1.19
Power, equip., fuel, shelter depreciation 2/	6.28	6.28	6.28	6.43	6.43	6.43	6.50	6.50	6.50	6.57	6.57	6.57
Death loss (4% of purchase	1.88	2.16	2.20	2.24	2.07	1.84	1.82	1.92	1.89	1.66	1.46	1.27
Transportation (100 miles)	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48	.48
Marketing expenses	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Miscel. & indirect costs 2/	.64	.64	.64	.66	.66	.66	.67	.67	.67	.67	.67	.67
Total	105.05	111.78	113.86	116.39	113.27	107.39	108.95	109.94	109.22	102.53	98.06	94.08
Selling Price Required To Cover: ($/cwt)												
Feed and feeder costs (220 lb)	36.22	39.04	39.95	40.75	39.47	37.00	37.19	37.55	37.25	35.07	33.21	31.57
All costs (220 lb)	47.75	50.81	51.75	52.90	51.49	48.81	49.52	49.97	49.65	46.60	44.57	42.76
Feed cost per 100-lb gain (180 lb)	18.16	17.73	18.28	18.69	19.54	19.73	20.12	19.20	19.26	19.79	20.28	20.95
Barrows and gilts, 7 markets	55.58	61.08	61.85	60.35	54.72	48.75	40.65	41.14				
Net margin	7.83	10.27	10.10	7.45	3.23	-.06	-8.87	-8.88				
Prices:												
40-lb feeder pig (So. Missouri) $/head	47.00	53.96	54.98	56.00	51.66	45.89	45.60	48.05	47.28	41.53	36.56	31.74
Corn $/bu 3/	1.40	1.33	1.42	1.51	1.65	1.68	1.59	1.44	1.45	.53	1.61	1.72
Protein supp. (38-42%) $/cwt 4/	13.30	13.30	13.30	13.10	13.10	13.10	14.40	14.40	14.40	14.45	14.45	14.45
Labor & management $/hr 5/	8.16	8.16	8.16	8.56	8.56	8.56	9.38	9.38	9.38	8.16	8.16	8.16
Interest rate (annual)	11.10	11.10	11.10	10.90	10.90	10.90	11.00	11.00	11.00	11.22	11.22	11.22
Transportation rate $/cwt (100 miles) 6/	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Marketing expenses $/cwt 7/	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Index of prices paid by farmers (1910-14=100)	1091	1091	1091	1116	1116	1116	1128	1128	1128	1141	1141	1141

1/ Although a majority of hog feeding operations in the Corn Belt are from farrow to finish, relative fattening expenses will be similar. Costs represent only what expenses would be if all selected items were paid for during the period indicated. The feed rations and expense items do not necessarily coincide with the experience of individual feeders. For individual use, adjust expenses and prices for management, production level, and locality of operation. 2/ Adjusted monthly by the index of prices paid by farmers for commodities, services, interest, taxes, and wage rates. 3/ Average price received by farmers in Iowa and Illinois. 4/ Average prices paid by farmers in Iowa and Illinois. 5/ Assumes an owner-operator receiving twice the farm labor rate. 6/ Converted from cents/mile for a 44,000-pound haul. 7/ Yardage plus commission fees at a Midwest terminal market.

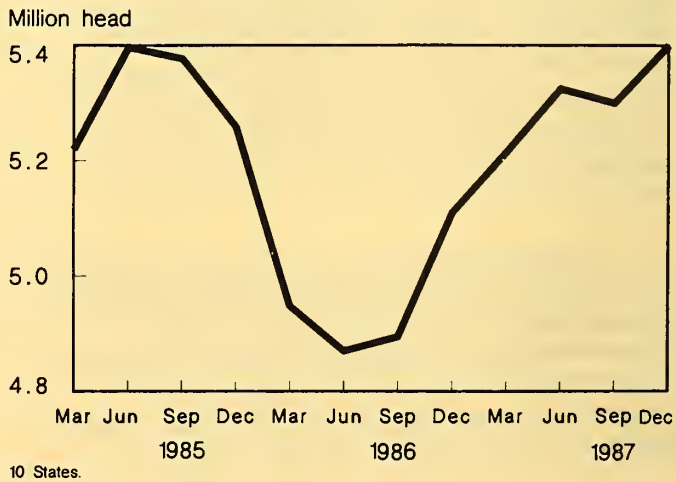
somewhat better, as reduced feeder pig prices help offset a decline in hog prices.

Though net returns will be sharply reduced, they should still be positive in 1988. Overhead costs may be slightly lower on average, as a greater share of production may come from larger units, thereby reducing per-head interest and building expenses. If so, breakeven prices may be held down in spite of higher feed costs, helping producers to withstand a sharp drop in hog prices.

Inventory Growth Slows

Pork producers have been expanding breeding herds, but there are indications that

Hogs and Pigs Kept for Breeding



10 States.

Table 3--Hogs and pigs balance sheet

Year	Dec. 1 inventory 1/	Dec.-May pig crop 1/	Total supply	Comm'l slaughter Dec.-May	Other disappearance 2/	June 1 inventory	June-Nov. pig crop	Total supply	Comm'l slaughter June-Nov.	Other disappearance 2/
					1,000 head					
1975	54,693	35,530	90,223	37,854	4,509	47,860	35,656	83,516	31,666	2,583
1976	49,267	42,177	91,444	34,691	2,823	53,930	42,218	96,148	38,051	3,163
1977	54,934	42,960	97,894	39,435	3,999	54,460	43,202	97,662	38,219	2,904
1978	56,539	42,481	99,020	38,947	4,833	55,240	46,031	101,271	38,462	2,453
1979	60,356	50,551	110,907	41,217	4,617	65,020	52,241	117,261	46,627	3,316
1980	67,318	52,288	119,606	49,294	5,057	65,255	49,432	114,687	46,216	4,009
1981	64,462	47,605	112,067	47,503	4,824	59,740	46,248	105,988	43,991	3,299
1982	58,698	41,575	100,273	43,938	4,075	52,260	43,614	95,874	39,646	1,694
1983	54,534	47,409	101,943	41,516	2,482	57,945	45,746	103,691	45,146	1,851
1984	56,694	42,403	99,097	44,147	2,135	52,815	44,183	96,998	41,840	1,085
1985	54,073	42,545	96,618	42,814	1,554	52,250	43,484	95,734	41,771	1,650
1986	52,313	40,392	92,705	41,519	2,361	48,825	41,997	90,822	38,183	1,719
1987	50,920	43,135	94,055	39,477	2,498	52,080	44,668	96,748	40,594	2,359
1988	53,795	45,357	99,152 3/							

1/ December previous year. 2/ Includes imports, exports, death loss, farm slaughter, etc. 3/ Based on farrowing intentions.

Table 4--Hogs on farms December 1, farrowings and pig crops, United States

Item	1985	1986	1987	1988	1987/86	1988/87
	- - - - - - 1,000 head - - - - - -				- - Percent change - -	
Inventory	52,313	50,920	53,795		+6	
Breeding	6,783	6,671	7,021		+5	
Market	45,530	44,250	46,774		+6	
Under 60 lb	17,301	16,756	17,230		+3	
60-119 lb	11,700	11,228	11,902		+6	
120-179 lb	9,320	9,106	9,625		+6	
180 + lb	7,210	7,159	8,017		+12	
Sows farrowing						
December 1/-February	2,543	2,443	2,506		+3	
March-May	3,027	2,803	3,032		+8	
December 1/-May	5,571	5,246	5,538	5,815 2/	+6	+5
June-August	2,849	2,727	2,930		+7	
September-November	2,820	2,696	2,844		+6	
June-November	5,669	5,423	5,774		+6	
Pig crops 1/						
December 1/-February	19,101	18,513	19,339		+4	
March-May	23,444	21,879	23,796		+9	
December 1/-May	42,545	40,392	43,135	45,357	+7	+5
June-August	22,010	21,158	22,694		+7	
September-November	21,474	20,839	21,974		+5	
June-November	43,484	41,997	44,668		+6	
			Number			
Pigs per litter						
December 1/-February	7.51	7.58	7.72		+2	
March-May	7.74	7.80	7.85		+1	
December 1/-May	7.64	7.70	7.79	7.80 3/	+1	0
June-August	7.73	7.76	7.75		0	
September-November	7.62	7.73	7.73		0	
June-November	7.67	7.74	7.74		0	

1/ December preceding year. 2/ Intentions. 3/ Average number of pigs per litter with allowance for trend.

the expansion is slowing. In the 10-States quarterly reporting, the number of hogs kept for breeding was 5.4 million head on December 1, 1987, up 6 percent from a year ago. This was the largest 10-State breeding herd figure since the expansion began in June 1986. December 1 breeding herd numbers on all U.S. farms, at 7.0 million head, were up 5 percent from a year ago but were unchanged from June 1987.

Despite the continued increase in the 10-State breeding herd, farrowing intentions reflect a cautious attitude among pork producers. Sows farrowing in September-November were up 7 percent in the 10 States and up 6 percent in the total United States. These sows were bred in May-July, when returns were highest. Though greater than a year ago, actual fall farrowings were low in relation to both first intentions (reported in June), and farrowings in the two preceding quarters. In light of market conditions, the year-to-year increase was relatively modest. The accelerated breeding activity in the early part of 1987 was apparently scaled back by midyear, perhaps in response to bearish price forecasts.

Producers reported intentions to farrow 4.5 million sows in December 1987-May 1988 in the 10 States, and 5.8 million in the total United States. These intentions are up 6 percent and 5 percent from a year ago, respectively. In the March-May period, 10-State farrowing intentions show a year-to-year increase of only 2 percent. These sows were bred from November 1987 through January 1988. The survey was conducted during the first 2 weeks in December, when hog prices were approaching breakeven levels. Thus, spring farrowing intentions seem to reflect the deteriorating market conditions in the fourth quarter.

If these intentions are carried out, the production response to declining profitability will have occurred more quickly than in the past. Operations may be more sensitive to overproduction, and less willing to finance major expansion with borrowed funds. With only modest returns expected in 1988, it is likely that the growth in hog inventories will slow further. Unless feed costs show a surprising increase, it is unlikely that returns will drop low enough to stimulate significant liquidation before the end of the year.

Long-term trends in the structure and performance of U.S. pork production may result in a more stable hog inventory. Since the most recent low in the hog cycle the U.S. breeding herd inventory has risen 10 percent, yet it remains below the lows of the early 1980's. The December 1987 breeding herd of 7.02 million head compares with the previous low of 7.41 million in June 1982. At the same time, the inventory of market hogs is larger, at 46.8 million head versus 44.8 million in 1982. The number of pigs saved per litter has increased about 5 percent since 1982, and market hogs are generally both leaner and heavier. Thus, the amount of lean pork produced per sow is increasing.

In addition, hog production is becoming concentrated among fewer and larger producers. Therefore, a given change in pork production requires a smaller adjustment in hog inventories; and inventory adjustments are more likely to stem from variations in the size of existing operations, rather than in the total number of operations. These trends could eventually lead to smaller short-term adjustments in hog inventories, as more extreme swings in profitability may be needed to stimulate the construction of additional facilities or the idling of operations.

Pork Production to Increase

Commercial pork production in 1988 may be 6 to 8 percent higher than in 1987. The largest increases are expected to occur in the second and third quarters.

Based on the June-August pig crop and inventory of 60-to 179-pound market hogs on December 1, first-quarter commercial hog slaughter should total about 21.5 million head. This equates to an average weekly rate of about 1.68 million, 6 percent higher than a year ago. Dressed weights in the first quarter of 1987 were heavy at 178 pounds, and are expected to average about a pound lighter this year. If so, first-quarter 1988 pork production will be about 3.65 billion pounds.

In the second quarter, hog slaughter will be drawn primarily from the September-November pig crop. Using this as an indicator, weekly commercial kills should average about 10 percent higher than a year ago, totaling 20.8 million head for the quarter. If dressed weights are unchanged at

Summer pig crop and commercial slaughter

Year	Pig crop June-Aug.	Slaughter Jan.-Mar. 1/	Slaughter/ pig crop
	- - 1,000 head - -		Percent
1980	24,417	23,678	97.0
1981	23,548	21,714	92.2
1982	21,383	20,212	94.5
1983	23,361	21,806	93.3
1984	22,346	20,871	93.4
1985	22,010	20,379	92.6
1986	21,158	19,938	94.2
1987	22,694		

1/ January-March of the following year.

Fall pig crop and commercial slaughter

Year	Pig crop Sept.-Nov.	Slaughter Apr.-June 1/	Slaughter/ pig crop
	- - 1,000 head - -		Percent
1980	25,015	22,594	90.3
1981	22,700	20,712	91.2
1982	22,231	21,666	97.5
1983	22,385	21,124	94.4
1984	22,837	21,343	93.5
1985	21,474	20,316	94.6
1986	20,839	18,901	90.7
1987	21,974		

1/ April-June of the following year.

Sow slaughter balance sheet, 10 States

Item	1985	1986	1987	1988
	Million head			
December 1 breeding 1/	5.3	5.3	5.1	5.4
December-February				
Comm. sow slaughter 2/	.8	.7	.6	
Gilts added	.7	.3	.7	
March 1 breeding	5.2	4.9	5.2	
March-May				
Comm. sow slaughter 2/	.7	.6	.6	
Gilts added	.9	.6	.7	
June 1 breeding	5.4	4.9	5.3	
June-August				
Comm. sow slaughter 2/	.8	.7	.8	
Gilts added	.8	.7	.8	
September 1 breeding	5.4	4.9	5.3	
September-November				
Comm. sow slaughter	.8	.7	.7	
Gilts added	.7	.9	.8	

1/ December previous year. 2/ 75 percent of estimated U.S. commercial sow slaughter.

Federally inspected hog slaughter

Week ended	1985	1986	1987
	Thousands		
Jan. 1 1/	1,238	1,153	1,069
5	1,295	1,282	1,258
12	1,679	1,675	1,683
19	1,615	1,654	1,659
26	1,528	1,563	1,527
Feb. 2	1,565	1,506	1,500
9	1,582	1,526	1,455
16	1,508	1,512	1,502
23	1,539	1,501	1,395
Mar. 2	1,608	1,606	1,533
9	1,635	1,635	1,555
16	1,638	1,650	1,577
23	1,647	1,556	1,573
30	1,642	1,579	1,500
Apr. 6	1,569	1,518	1,529
13	1,623	1,633	1,553
20	1,676	1,651	1,498
27	1,662	1,619	1,393
May. 4	1,702	1,637	1,453
11	1,699	1,607	1,475
18	1,705	1,560	1,440
25	1,580	1,518	1,445
June 1	1,361	1,310	1,226
8	1,592	1,471	1,383
15	1,561	1,459	1,372
22	1,535	1,373	1,341
29	1,476	1,330	1,356
July 6	1,171	1,118	1,193
13	1,523	1,390	1,360
20	1,427	1,349	1,345
27	1,400	1,281	1,354
Aug. 3	1,474	1,314	1,330
10	1,556	1,338	1,372
17	1,524	1,368	1,445
24	1,531	1,402	1,404
31	1,601	1,419	1,475
Sept. 7	1,429	1,257	1,548
14	1,690	1,492	1,363
21	1,667	1,504	1,709
28	1,681	1,504	1,620
Oct. 5	1,644	1,521	1,658
12	1,686	1,555	1,638
19	1,620	1,528	1,720
26	1,654	1,551	1,664
Nov. 2	1,668	1,580	1,786
9	1,654	1,576	1,791
16	1,654	1,537	1,778
23	1,697	1,557	1,770
30	1,328	1,308	1,463
Dec. 7	1,656	1,530	1,845
14	1,566	1,548	1,879
21	1,655	1,503	1,727
28	1,153	1,070	1,150

1/ Corresponding dates-1985: 1986, December 28; 1987, December 27.

Table 5--Hogs on farms December 1, farrowings and pig crops, 10 States 1/

Item	1985	1986	1987	1988	1987/86	1988/87
	- - - - - - 1,000 head - - - - - -				- - - Percent change - - -	
December 1						
Inventory	41,100	39,690	42,275		7	
Breeding	5,258	5,110	5,400		6	
Market	35,842	34,580	36,875		7	
Under 60 lb	13,641	13,105	13,605		4	
60-119 lb	9,240	8,815	9,405		7	
120-179 lb	7,367	7,135	7,565		6	
180 + lb	5,594	5,525	6,300		14	
March 1						
Inventory	39,680	38,210	38,370		0	
Breeding	5,220	4,948	5,215		5	
Market	34,460	33,262	33,155		0	
Under 60 lb	12,701	12,350	12,596		2	
60-119 lb	8,427	8,046	7,959		-1	
120-179 lb	7,580	7,276	7,132		-2	
180 + lb	5,752	5,590	5,468		-2	
June 1						
Inventory	41,650	38,025	40,880		8	
Breeding	5,397	4,870	5,325		9	
Market	36,253	33,155	35,555		7	
Under 60 lb	15,168	13,845	15,385		11	
60-119 lb	9,100	8,315	8,750		5	
120-179 lb	6,545	6,190	6,435		4	
180 + lb	5,440	4,805	4,985		4	
September 1						
Inventory	41,820	39,585	43,075		9	
Breeding	5,377	4,895	5,300		8	
Market	36,443	34,690	37,775		9	
Under 60 lb	14,630	13,970	14,870		6	
60-119 lb	8,820	8,385	9,265		10	
120-179 lb	7,406	6,970	7,805		12	
180 + lb	5,587	5,365	5,835		9	
Sows farrowing						
December-February	1,955	1,863	1,916	2,113 3/	3	10
March-May	2,420	2,171	2,352	2,402 3/	8	2
December-May	4,375	4,034	4,268	4,515 3/	6	6
June-August	2,191	2,074	2,257		9	
September-November	2,265	2,115	2,258		7	
June-November	4,456	4,189	4,515		8	
Pig crops						
December 2/-February	14,690	14,254	14,840		4	
March-May	18,762	16,957	18,601		10	
December 2/-May	33,452	31,211	33,441		7	
June-August	16,941	16,164	17,481		8	
September-November	17,255	16,460	17,495		6	
June-November	34,196	32,624	34,976		7	
		Number				
Pigs per litter						
December 2/-February	7.51	7.65	7.75		1	
March-May	7.75	7.81	7.91		1	
December 2/-May	7.65	7.74	7.84		1	
June-August	7.73	7.79	7.75		-1	
September-November	7.62	7.78	7.75		0	
June-November	7.67	7.79	7.75		-1	

1/ Georgia, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Carolina, Ohio.
2/ December preceding year. 3/ Intentions.

176 pounds, commercial pork production will be about 3.65 billion pounds, up from 3.325 billion a year ago. This would be a 10-percent increase when the pig crop in the fall of 1987 was up only 5 to 6 percent. Hog slaughter in the second quarter of 1987, however, was unusually low relative to the September-November 1986 pig crop. This year it is anticipated that the relationship will return to the historical average.

December 1987-February 1988 farrowing intentions suggest that slaughter rates will be approximately 13 percent above a year earlier in the third quarter of 1988. Again, summer hog slaughter in relation to the winter pig crop is expected to be closer to historical averages than it was in 1987. If so, total pork production during July-August may be about 3.8 billion pounds, with a total kill of 21.8 million head and average dressed weights about unchanged from 1987's third-quarter average of 174 pounds.

If producers follow through with their intentions to moderate farrowings in the spring of 1988, commercial hog slaughter could be very close to year-earlier levels in the final quarter of 1988. The implied weekly rate of just over 1.8 million head would be unchanged from the fourth quarter of 1987, resulting in a quarterly total of about 22.8 million. If dressed weights are unchanged from a year earlier, commercial pork production would be around 4 billion pounds.

Pork Imports from Canada Expand

Total U.S. imports of pork, carcass-weight basis, were 997 million pounds in January-October 1987, up 10 percent over the same period a year earlier. Imports from Canada were up 12 percent to 458 million pounds. The next largest supplier, Denmark, at 289 million pounds, was about even with the previous year for the first 10 months. Imports from Denmark are likely to be up for the year as the EC has increased export restitutions to counter the strengthening of the krone relative to the dollar, which had been keeping Danish exports down. U.S. imports from Denmark were up 19 percent in August-October 1987 over the same period a year earlier.

Canadian pork output is expected to increase about 9 percent in 1988. October 1 Canadian hog inventories are estimated up 6 percent from 1986. The favorable hog/feed price ratio has fueled increased farrowings and generated greater output. Lower hog prices late this year and rising feed prices will pressure returns. Greater exports of both meat and live hogs to the United States are expected in 1988.

U.S. pork imports probably totaled about 1.2 million pounds in 1987, up 7 percent. Because of Canada's larger exportable supplies and the increased EC export restitutions, pork imports for 1988 are forecast to be up 8 percent to 1.3 billion pounds.

U.S. live hog imports from Canada were 363,227 head in January-October 1987, down almost 20 percent from the same period a year earlier. Live hog imports for 1987 are expected to be down to 400,000 head. Imports from Canada of pork and hogs on a carcass-weight basis increased 8 percent. As of January 1, 1988, the assessment rate for the countervailing duty on Canadian hogs for April 1985-March 1986 had not been set. The deposit rate is presently $Can4.386 per cwt. Some increase in hog imports is forecast in 1988, probably to 425,000-475,000 head.

Japan Increases Imports of U.S. Pork

U.S. exports of pork were up 22 percent to 79.3 million pounds during January-October 1987. Shipments to the United States' major market, Japan, were up 53 percent to 43.7 million pounds. Japan took about 55 percent of all U.S. pork exported. U.S. exports to Japan have benefited from the strengthening of the yen. Total pork exports for 1987 are expected to be up 16 percent to 100 million pounds. Continued export expansion is forecast for 1988, up 20 percent to 120 million pounds.

In Japan, imports accounted for about 16 percent of the pork consumed last year. In the last few years Taiwan has accounted for a growing share of the Japanese import market, rising from about one-fifth in 1982 to almost one-half in 1986. Exports to Japan from the United States and Canada dropped from 1982 to 1985. Exports from the United States rose after 1985, but pork from Canada continued to decline. The United States and Canada each

accounted for about 7 percent of Japan's pork imports during the first 7 months of 1987, with Denmark accounting for about 32 and Taiwan 49 percent.

Cold Storage Stocks Rise

Over the past 2 months there has been a fairly rapid buildup in cold storage stocks. The amount of pork in cold storage probably increased by about 75 million pounds during the final quarter of 1987, compared with only 11 million pounds a year earlier. Actual year-end figures will be made available in the January 22 *Cold Storage* report. Frozen belly stocks accounted for about two-thirds of the total accumulation. (See special article). If freezer stock accumulation continues at its recent pace, frozen pork supplies – particularly frozen bellies --- may become excessive by the third quarter of 1988.

Hog Prices to Remain Weak

The average price of barrows and gilts in 1988 is likely to be substantially lower than 1987's $52 per cwt. Per capita pork supplies will be larger, due to increases in production, freezer stocks, and imports. A further increase in per capita poultry supplies is also probable, but this may be offset by declining beef supplies.

The hog market came under intense pressure in the fourth quarter of 1987. Weekly kills reached 4-year highs and average market weights topped 250 pounds, pushing quarterly pork production 12 percent above year-earlier levels. The price of barrows and gilts at the 7 major markets fell about $20 per cwt during September and October, then flattened out just above $40 per cwt for the rest of the year.

Hog prices are likely to exhibit a fairly stable pattern in 1988, with quarterly averages ranging from the low $40's to high $40's per cwt. For the year, barrows and gilts may average in the low to mid $40's. Per capita pork supplies could be up 7 to 9 percent from 1987, with the largest year-to-year increase occurring in the third quarter. The highest prices of the year are likely to be seen late in the second quarter, with lows being established in the October-December period.

Barrow and gilt prices are likely to average $42 to $46 per cwt in the first quarter of 1988, nearly unchanged from the fourth-quarter 1987 average of $43.51. Weekly federally inspected slaughter reached a seasonal peak at 1.87 million head in December, and December 1 market hog inventories, along with last summer's pig crop, indicate a decline to about 1.55 million in February. The declining slaughter rates should support a rise in barrow and gilt prices to the high $40's per cwt in February, before prices fall back to the low $40's in March.

The September-November pig crop implies that weekly kills (federally inspected) may drop from a high of around 1.7 million head in late March-early April to less than 1.5 million in June. The attendant decline in pork production should allow for a normal seasonal rise in hog prices, which could carry the 7-market average back to near $50 per cwt late in the second quarter. Assuming normal product ratios and packer margins, this suggests an average wholesale value for 14-to 18-pound pork loins of $105 to $115 per cwt in June, compared with $124 a year ago. On a quarterly average basis, per capita pork supplies may be 9 to 11 percent larger than a year earlier, with combined supplies of beef and poultry up nearly 2 percent. Barrow and gilt prices may average $43 to $47 per cwt, down sharply from last year's second-quarter average of $56.22.

December 1987-February 1988 farrowing intentions indicate an unusual pattern in summer hog slaughter, with kills increasing sharply between June and September. Weekly federally inspected slaughter could again exceed 1.8 million head by the end of the third quarter. Combining increases in fresh pork production, cold storage stocks, and imports, per capita pork supplies may exceed year-ago levels by about 14 percent. In addition, the seasonal pattern in farrowings points toward the largest second-to-third quarter increase in per capita pork supplies since 1976. Under these conditions barrow and gilt prices may trend lower throughout the summer, with the quarterly average falling back into the $42-$46 per cwt range. Hog prices may then average in the low to mid $40's per cwt in the final quarter of 1988, as per capita supplies of pork and combined supplies of competing meats are about the same as a year earlier.

Retail Pork Prices to Decline

After a 17-percent increase from 1985 to 1987, retail pork prices in 1988 are expected to decline 6 to 8 percent. After reaching a record high in third-quarter 1987, retail pork prices declined only 3 percent in the fourth quarter despite large pork and poultry supplies. Per capita pork consumption rose 9 percent in the fourth quarter from a year ago, while competing broiler and turkey consumption rose 7 and 13 percent, respectively. Beef consumption dropped about 4 percent. From the third quarter to the fourth quarter, farm value dropped 26 percent to about 70 cents a pound, while the farm-retail spread rose 19 percent. For all of 1988, the farm value is expected to average about the same as in fourth-quarter 1987, but the spread is expected to narrow in 1988, allowing a decline in retail prices. Without an expected growth in per capita income, retail pork prices would be expected to slip even lower.

Farm-to-retail spreads averaged around $1.06 a pound in 1987, up 10 cents from 1986. Spreads rose slightly over a nickel in 1986 over 1985. With the recent rates of inflation, spreads are expected to decline from fourth-quarter levels and rise perhaps 3 to 4 percent in 1988.

Cattle

Commercial cattle slaughter declined over 4 percent in 1987, due mainly to a sharp drop in cow slaughter. Steer slaughter was about unchanged for the year, while heifer slaughter declined 2 percent. A 17-percent decline in cow slaughter was driven by reduced culling in both dairy and beef cow herds. After completion of the Dairy Termination Program last August, dairy cow numbers likely

Table 6---Pork: Retail, wholesale, and farm values, spreads, and farmers' share

Year	Retail price 1/	Wholesale value 2/	Gross farm value 3/	By-product allowance 4/	Net farm value 5/	Farm-retail spread			Farmers' share 6/
						Total	Wholesale-retail	Farm-wholesale	
	- - - Cents per pound - - -								Percent
1982	175.4	121.8	94.3	6.3	88.0	87.4	53.6	33.8	50
1983	169.8	108.9	81.4	4.9	76.5	93.3	60.9	32.4	45
1984	162.0	110.1	83.3	5.9	77.4	84.6	51.9	32.7	48
1985	162.0	101.1	76.2	4.8	71.4	90.6	60.9	29.7	44
1986	178.4	110.9	87.3	4.9	82.4	96.0	67.5	28.5	46
I	167.7	95.7	73.7	4.4	69.3	98.4	72.0	26.4	41
II	163.7	102.2	81.4	4.3	77.1	86.6	61.5	25.1	47
III	189.4	128.9	104.3	5.7	98.5	90.9	60.5	30.4	52
IV	192.9	116.8	90.0	5.3	84.7	108.2	76.1	32.1	44
1987	188.4	113.0	87.9	5.2	82.7	105.7	75.4	30.3	44
Jan.	188.1	105.4	80.7	5.0	75.7	112.4	82.7	29.7	40
Feb.	185.6	103.8	82.9	5.1	77.8	107.8	81.8	26.0	42
Mar.	181.3	102.2	81.7	4.9	76.8	104.5	79.1	25.4	42
I	185.0	103.8	81.8	5.0	76.8	108.2	81.2	27.0	41
Apr.	178.9	108.4	87.8	5.1	82.7	96.2	70.5	25.7	46
May	183.7	117.0	94.8	5.5	89.3	94.4	66.7	27.7	49
June	187.6	124.3	104.1	5.9	98.2	89.4	63.3	26.1	52
II	183.4	116.6	95.6	5.5	90.1	93.3	66.8	26.5	49
July	193.6	126.2	104.8	6.0	98.8	94.8	67.4	27.4	51
Aug.	196.2	127.0	102.7	5.9	96.8	99.4	69.2	30.2	49
Sept.	196.9	119.8	93.4	5.6	87.8	109.1	77.1	32.0	45
III	195.5	124.3	100.3	5.9	94.4	101.1	71.2	29.9	48
Oct.	194.4	112.7	82.7	4.9	77.8	116.6	81.7	34.9	40
Nov.	189.2	103.1	69.1	4.1	65.0	124.2	86.1	38.1	34
Dec.	185.6	106.5	70.2	4.0	66.2	119.4	79.1	40.3	36
IV	189.7	107.4	74.0	4.3	69.7	120.0	82.3	37.7	37

1/ Estimated weighted-average of BLS prices of retail cuts from pork carcass. 2/ Value of wholesale quantity equivalent to 1 lb of retail cuts. A wholesale-carcass equivalent of 1.06 is used. 3/ Market values to producer for 1.7 lb of live animal, equivalent to 1 lb of retail cuts. 4/ Portion of gross farm value attributable to edible and inedible by-products. 5/ Gross farm value minus by-product allowance. 6/ Percent net farm value is of retail price.

Table 7--Federally inspected cattle slaughter

Week ended	Cattle			Steers			Cows								
							Total			Dairy			Dairy/total		
	1985	1986	1987	1985	1986	1987	1985	1986	1987	1985	1986	1987	1985	1986	1987
	- - - - - - Thousands - - - - - -												- - Percent - -		
Jan. 3	553	591	577	247	269	274	129	137	130	50	58	62	39	42	48
10	736	757	741	323	343	349	183	189	148	70	79	66	38	42	45
17	741	755	766	355	343	360	153	176	151	61	72	67	40	41	44
24	679	704	707	327	321	336	140	153	124	52	67	61	37	44	49
31	665	669	673	313	308	332	146	143	128	60	62	64	41	43	50
Feb. 7	672	655	684	313	307	316	133	144	135	58	64	67	44	44	50
14	657	651	621	303	310	303	146	122	119	59	58	59	40	48	50
21	671	638	602	311	289	292	142	126	109	59	59	56	41	47	51
28	679	676	657	323	318	326	131	136	121	60	64	66	46	47	55
Mar. 7	678	637	678	332	297	337	127	130	127	55	62	68	43	48	53
14	675	638	646	311	304	311	136	128	124	60	61	58	44	48	47
21	623	646	625	289	305	300	128	131	111	56	61	55	44	47	49
28	621	641	616	282	295	304	124	135	115	55	64	58	44	47	50
Apr. 4	612	669	652	265	315	328	118	157	121	54	89	57	46	57	47
11	640	716	649	286	354	333	119	148	114	53	97	51	45	65	45
18	659	705	681	322	339	349	126	137	119	53	86	52	42	63	44
25	681	719	639	320	342	330	123	159	117	49	92	48	40	58	41
May 2	684	719	635	344	334	321	115	157	118	48	84	48	42	53	41
9	686	706	630	336	327	309	116	149	116	46	77	46	39	52	40
16	711	731	700	356	339	348	120	156	124	47	74	50	39	47	37
23	689	729	695	335	334	355	130	158	131	49	77	49	38	49	37
30	600	643	612	288	310	309	113	136	107	41	64	43	36	47	40
June 6	662	720	680	328	364	351	125	142	117	44	66	50	35	46	43
13	673	735	669	344	375	340	110	143	115	42	66	49	38	46	43
20	684	691	649	338	327	320	121	140	123	44	65	49	36	46	40
27	685	731	680	328	343	339	130	147	130	47	69	52	36	47	40
July 4	559	612	621	294	289	316	84	123	109	32	59	47	38	48	43
11	707	734	652	335	342	338	131	149	114	50	74	51	38	50	45
18	697	746	682	325	354	339	139	163	128	48	75	53	35	46	41
25	678	732	672	331	346	333	119	151	121	45	71	51	38	47	42
Aug. 1	659	685	676	319	310	339	114	148	123	46	75	56	40	51	46
8	683	723	693	340	339	335	107	141	123	44	71	58	41	50	47
15	705	767	713	327	361	354	128	150	124	49	78	58	38	52	47
22	720	733	692	339	341	336	136	147	129	52	71	63	38	48	49
29	706	718	706	334	333	341	133	146	132	53	74	66	40	51	50
Sept 5	613	619	690	295	291	324	111	116	119	46	55	54	41	47	45
12	726	734	624	332	332	293	136	134	100	54	59	44	40	44	44
19	714	722	727	347	352	337	127	145	122	52	66	53	41	46	43
26	698	678	677	313	337	312	139	143	123	58	63	56	42	44	46
Oct. 3	671	694	684	289	359	324	148	134	116	61	62	53	41	46	46
10	692	686	690	300	342	340	147	137	120	57	64	53	39	47	44
17	674	690	696	293	318	338	155	150	128	60	66	55	39	44	43
24	678	688	676	299	322	319	159	152	136	61	61	57	38	40	42
31	633	696	665	274	325	315	154	165	140	60	66	61	39	40	44
Nov. 7	666	714	649	293	335	311	167	165	141	65	68	59	39	41	42
14	669	671	643	285	296	301	174	168	136	68	73	56	39	43	41
21	655	692	648	288	313	308	166	175	141	66	70	57	40	40	40
28	550	594	576	255	281	280	130	133	109	50	53	46	38	40	42
Dec. 3	653	685	646	282	298	305	171	174	139	68	74	58	40	43	42
10	680	676	660	290	302	311	192	175	140	75	71	60	39	41	43
19	670	691	638	297	315	324	168	170	114	68	74	51	40	44	45
26	521	512	482	243	248	242	115	105	80	45	46	39	39	44	49

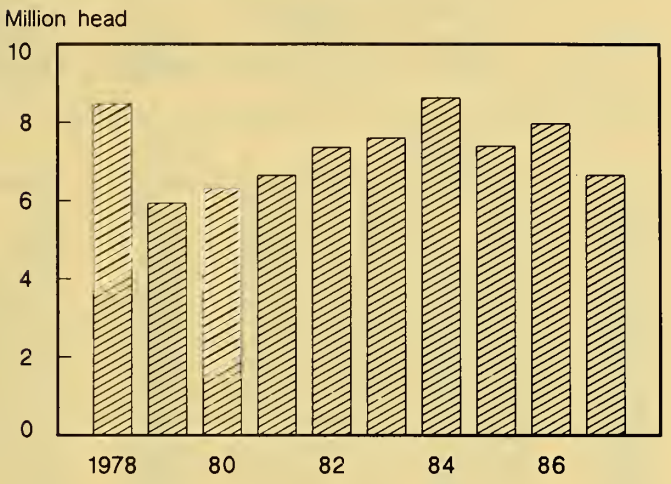
have stabilized for a while. Beef cow slaughter declined, following a return to more normal forage conditions in most areas of the country and the second year of positive returns above cash costs for cow-calf producers. These favorable returns have not yet translated into expansion for the industry. However, the next *Cattle Inventory* report, to be released on February 5, should indicate whether a larger cow herd will be in place over the next several years.

In spite of the sharply lower cow slaughter during 1987, a wide variation in beef cow slaughter occurred between regions. In the Western Corn Belt and Eastern Plains States, where a majority of the nation's cow herds are located, cow slaughter remained about unchanged for the year. This region contains a large number of slaughter plants, and tends to draw animals from outside the region, so some distortion of the actual kill rate is probable. However, the sharp decline in cow slaughter in other regions of the country still suggests that an end to the liquidation phase of the cattle cycle has occurred.

In the Southeast, annual beef cow slaughter declined 23 percent during 1987, versus a 35-percent increase in 1986. Much of this shift in culling rates can be attributed to a drought which reduced both the forage base and carrying capacity in 1986. The Southern Plains is another region reporting a sharp reduction in beef cow slaughter during 1987, down nearly 15 percent from the previous year. This region had begun restocking beef cow herds in 1986 following a drought in 1982–1984. Beef cow slaughter in the Inter-Mountain and Far West regions has been declining steadily for several years. Much of this reduction can be attributed to smaller cow inventories and fewer slaughter facilities, rather than a turnaround in beef cow numbers. During 1987, cow slaughter was down nearly 10 percent in the Mountain States and nearly 40 percent in the Far West. This follows 2 and 4 percent reductions, respectively, in beef cow inventories.

For the coming year, an additional 5-to 6-percent decline in U.S. cow slaughter is expected. This situation, combined with larger heifer retention, could lead to another half-million head decline in 1988 cattle

Commercial Cow Slaughter



slaughter. Much of the year-to-year decline in cow slaughter is expected in the first half of the year, with a 10-percent decline expected during January–June versus a 3-percent decline in the latter half of 1988. Large fed cattle supplies will partially offset expected declines in cow and nonfed steer and heifer slaughter during the first half of 1988, but fed cattle marketings also are expected to decline by the summer quarter. For the year, both cattle slaughter and beef production could be down 4 percent from 1987, with cattle slaughter down nearly 6 percent in the second half of 1988.

Cattle on Feed

Cattle on feed inventories in the 7 monthly reporting States reached 8.4 million head on December 1, 7 percent above a year ago and nearly as large as December 1984 inventories. The similarity to 1984 does not necessarily bode well for the fed cattle sector. Not long after the December 1984 figures were released, fed cattle marketings began to increase, pressuring prices lower. Feedlots reacted by reducing their showlists in anticipation of future price strength, causing marketings to fall further behind and cattle weights to rise. The end result was a backlog of heavy-weight cattle that prompted the spring market crash of 1985, when prices fell from the mid-$60's to low-$50's per cwt.

As was the case late in 1984, November 1987 placement rates were down sharply, but more ominous was the November marketing rate. After adjusting for changes in the

Table 8--7-States cattle on feed, placements, and marketings

Year	On feed	Change from previous year	Net placements	Change from previous year	Marketings	Change from previous year	Other disappear-ance	Change from previous year
	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent
1985								
Jan.	8,635	+7.6	1,331	-10.1	1,782	+13.6	118	+37.2
Feb.	8,184	+3.4	1,247	+2.3	1,540	-5.0	94	+14.6
Mar.	7,891	+5.0	1,494	-9.3	1,559	-2.2	98	-16.2
Apr.	7,826	+3.4	1,283	-3.6	1,603	+5.3	133	-27.7
May	7,506	+1.8	1,548	-2.0	1,604	-2.0	128	-41.6
June	7,450	+1.8	1,184	-12.4	1,577	+2.1	87	-7.4
July	7,057	-1.0	1,017	-17.9	1,670	+7.5	61	-27.4
Aug.	6,404	-6.0	1,448	-10.6	1,697	+.8	62	+1.6
Sept.	6,155	-8.8	1,909	-12.6	1,603	+7.7	79	-2.5
Oct.	6,461	-13.2	2,694	+10.6	1,573	-5.1	85	-22.7
Nov.	7,582	-7.8	1,690	-7.3	1,380	-8.1	76	-37.2
Dec.	7,892	-7.6	1,369	-7.9	1,401	-.9	111	-19.0
1986								
Jan.	7,920	-8.3	1,494	+12.2	1,750	-1.8	87	-26.3
Feb.	7,664	-6.4	1,128	-9.5	1,470	-4.5	92	-2.1
Mar.	7,322	-7.2	1,564	+4.7	1,593	+2.2	86	-12.2
Apr.	7,293	-6.8	1,445	+12.6	1,631	+1.7	120	-9.8
May	7,107	-5.3	1,624	+4.9	1,635	+1.9	132	+3.1
June	7,096	-4.8	1,095	-7.5	1,648	+4.5	67	-23.0
July	6,543	-7.3	1,480	+45.5	1,692	+1.3	64	+4.9
Aug.	6,331	-1.1	1,732	+19.6	1,659	-2.2	70	+12.9
Sept.	6,404	+4.0	2,044	+7.1	1,637	+2.1	59	-25.3
Oct.	6,811	+5.4	2,322	-13.8	1,587	+.9	81	-4.7
Nov.	7,546	-.5	1,727	+2.2	1,447	+4.9	87	+14.5
Dec.	7,826	-.8	1,301	-9.0	1,494	+6.6	104	-6.3
1987								
Jan.	7,633	-3.6	1,464	-2.0	1,803	+3.0	127	+46.0
Feb.	7,294	-4.8	1,322	+17.2	1,473	+.2	105	+14.1
Mar.	7,143	-2.4	1,665	+6.5	1,586	-.4	89	+3.5
Apr.	7,222	-1.0	1,592	+10.2	1,581	-3.1	134	+11.7
May	7,233	+1.8	1,811	+11.5	1,524	-6.8	143	+8.3
June	7,520	+6.0	1,375	+25.6	1,702	+3.3	87	+29.9
July	7,193	+9.9	1,190	-19.6	1,694	+.1	74	+15.6
Aug.	6,689	+5.7	1,829	+5.6	1,700	+2.5	68	-2.9
Sept.	6,818	+6.5	2,353	+15.1	1,636	-.1	71	+20.3
Oct.	7,535	+10.6	2,519	+8.5	1,690	+6.5	85	+4.9
Nov.	8,364	+10.8	1,506	-12.8	1,458	+.8	103	+18.4
Dec.	8,412	+7.5						

number of slaughter days between 1986 and 1987, November 1987 fed cattle marketings fell 5 percent from year-earlier levels. In addition, the number of heavy-weight cattle on feed appears to be increasing, based on the relationship between earlier placement activity and recent marketings from feedlots. A better view of the situation will be available when on-feed inventories by weight group are available in the quarterly *Cattle on Feed* report released January 22.

Assuming normal feedlot gains are achieved, the large placements during the fall of 1987 will require a 2 to 3-percent increase in first-quarter 1988 fed cattle marketings. A similar volume of fed cattle has not been marketed since the first quarter of 1979, when less competing meat was available to pressure cattle prices lower. Winter storms are also going to have a disruptive affect on cattle marketings during the next few months. Thus, first-quarter fed cattle prices will likely average in the low to mid $60's, well below estimated breakevens for many feedlots that purchased feeder cattle last fall near $80 per cwt.

First-quarter declines in fed cattle prices, combined with rising feed grain prices,

Table 9--Beef, Choice Yield Grade 3: Retail, carcass, and farm values, spreads, and farmers' share

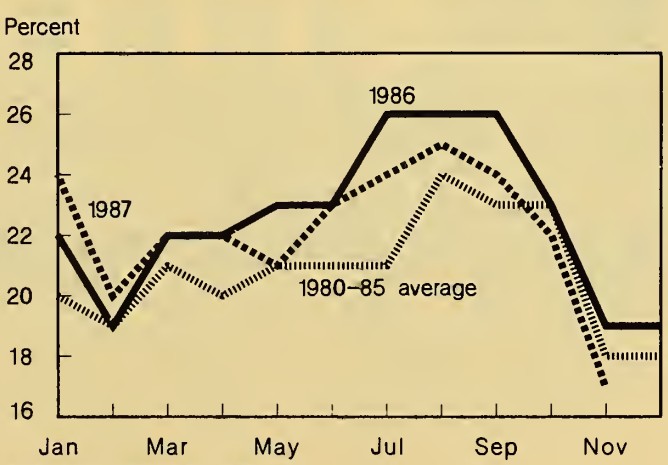
Year	Retail price 1/	Gross carcass value 2/	By-product allow-ance 3/	Net carcass value 4/	Gross farm value 5/	By-product allow-ance 6/	Net farm value 7/	Farm-retail spread			Farmers' share 8/
								Total	Carcass-retail	Farm-carcass	
	Cents per pound							Percent			
1982	242.5	152.8	2.1	150.7	155.5	15.0	140.5	102.0	91.8	10.2	58
1983	238.1	147.4	2.0	145.4	151.8	15.6	136.2	101.9	92.7	9.2	57
1984	239.6	150.6	3.0	147.6	158.6	18.6	140.0	99.6	92.0	7.6	58
1985	232.6	137.0	1.8	135.2	142.2	15.4	126.8	105.8	97.4	8.4	55
1986	230.7	134.3	1.2	133.1	140.0	15.6	124.4	106.3	97.6	8.7	54
I	233.2	133.5	1.3	132.2	138.6	15.5	123.1	110.1	101.0	9.1	53
II	226.8	127.8	.9	126.9	131.7	15.1	116.6	110.2	99.9	10.3	51
III	229.5	136.1	1.2	134.9	142.9	15.5	127.5	102.2	94.6	7.6	56
IV	233.3	139.7	1.3	138.4	146.8	16.4	130.4	102.9	94.9	8.0	56
1987	242.5	146.7	1.4	145.3	157.6	19.7	137.9	104.6	97.2	7.4	57
Jan.	236.6	135.5	1.5	134.0	142.8	17.1	125.7	110.9	102.6	8.3	53
Feb.	233.6	138.9	1.4	137.5	149.5	17.8	131.7	101.9	96.1	5.8	56
Mar.	233.6	140.7	1.2	139.5	151.4	18.0	133.4	100.2	94.1	6.1	57
I	234.6	138.4	1.4	137.0	147.9	17.6	130.3	104.3	97.6	6.7	56
Apr.	236.8	152.2	1.3	150.9	163.4	19.7	143.7	93.1	85.9	7.2	61
May	243.4	161.4	1.5	159.9	171.4	20.5	150.9	91.5	83.5	9.0	62
June	249.4	159.1	1.5	157.6	168.7	20.0	148.7	100.7	91.8	8.9	60
II	243.2	157.6	1.5	156.1	167.8	20.0	147.8	95.4	87.1	8.3	61
Jul.	248.2	150.2	1.4	148.8	159.0	19.9	139.1	109.1	99.4	9.7	56
Aug.	245.4	144.0	1.4	142.6	156.5	20.2	136.3	109.1	102.8	6.3	56
Sept.	245.5	146.4	1.5	144.9	158.0	20.4	137.6	107.9	100.6	7.3	56
III	246.4	146.9	1.4	145.5	157.8	20.1	137.7	108.7	100.9	7.8	56
Oct.	245.7	146.1	1.5	144.6	157.9	20.8	137.1	108.6	101.1	7.5	56
Nov.	246.6	143.9	1.5	142.4	156.9	20.8	136.1	110.5	104.2	6.3	55
Dec.	245.3	142.6	1.5	141.1	156.0	21.4	134.6	110.7	104.2	6.5	55
IV	245.9	144.2	1.5	142.7	156.9	21.0	135.9	110.0	103.2	6.8	55

1/ Estimated weighted-average of BLS prices of retail cuts from Choice Yield Grade 3 carcass. 2/ Value of carcass-quantity equivalent to 1 lb of retail cuts. A wholesale-carcass equivalent of 1.476 is used. 3/ Portion of gross carcass value attributed to fat and bone trim. 4/ Gross carcass value minus carcass by-product allowance. 5/ Market value to producer for 2.4 lb of live animal, equivalent to 1 lb of retail cuts. 6/ Portion of gross farm value attributed to edible and inedible by-products. 7/ Gross farm value minus farm by-product allowance. 8/ Percent net farm value is of retail price.

could also force feeder cattle prices lower this spring. This does not necessarily mean that demand for light-weight stocker cattle will be diminished. Moisture conditions have improved and normal grazing conditions are anticipated this spring. However, stocker operators expecting returns above their full cost of production may find the spring market does not fulfill their initial expectations for sharply higher prices.

If current inventories of cattle on feed can be slaughtered in an orderly fashion, beef supplies are expected to tighten and fed cattle prices should return to the mid-to-upper $60-per-cwt range for the remainder of the year. Reduced nonfed beef supplies will support cow prices in the mid to upper $40's throughout the year, with only a slight

Fed Cattle Marketings As Percent of Inventory



Seven major cattle feeding States.

Table 10--Great Plains custom cattle feeding: Selected costs at current rates 1/

Purchased during: Marketed during:	Jan. 87 July 87	Feb. Aug.	Mar. Sept.	Apr. Oct.	May Nov.	June Dec.	July Jan.	Aug. Feb.	Sept. Mar.	Oct. Apr.	Nov. May
Expenses: ($/head)											
600 lb feeder steer	398.82	421.86	423.36	428.88	417.78	427.14	451.08	464.28	485.40	453.78	443.04
Transportation to feedlot (300 miles)	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96	3.96
Commission	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Feed											
Milo (1500 lb) 2/	46.80	46.05	49.05	52.20	56.25	56.55	55.35	51.15	49.20	51.60	52.95
Corn (1500 lb) 2/	55.70	52.65	54.90	57.60	63.75	63.30	60.15	55.50	56.25	58.65	59.85
Cotton seed meal (400 lb)	45.20	45.20	45.20	44.00	44.00	44.00	45.20	45.20	45.20	55.60	55.60
Alfalfa hay (800 lb)	43.70	45.20	45.20	41.20	47.00	46.00	44.00	47.00	42.80	43.20	45.60
Total feed cost	190.40	189.10	194.35	195.00	206.00	209.85	204.70	193.85	193.45	209.05	214.00
Feed handling and management charge	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Vet medicine	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Interest on feeder and 1/2 feed	23.47	24.53	24.73	26.98	26.69	27.27	28.36	28.76	29.83	30.01	29.56
Death loss (1% of purchase)	5.98	6.33	6.35	6.43	6.27	6.41	6.77	6.96	7.28	6.81	6.65
Marketing 3/	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.	F.o.b.
Total	649.63	672.78	679.75	688.25	687.70	701.63	721.87	724.81	746.92	730.61	724.21
Selling price required to cover: 4/ $/cwt											
Feed and feeder cost (1056 lb)	55.80	57.86	58.50	59.08	59.07	60.32	62.10	62.32	64.29	62.77	62.22
All costs	61.52	63.71	64.37	65.18	65.12	66.44	68.36	68.64	70.73	69.19	68.58
Selling price 5/	65.70	65.12	66.46	67.00	67.09	66.12					
Net margin	4.18	1.41	2.09	1.82	1.97	-.32					
Cost per 100 lb Gain:											
Variable cost less interest $/cwt	44.08	43.89	44.94	45.09	47.25	48.05	47.09	44.96	44.95	47.97	48.93
Feed costs $/cwt	38.08	37.82	38.87	39.00	41.20	41.97	40.94	38.77	38.69	41.81	42.80
Prices:											
Choice feeder steer 600-700 lb Amarillo	66.47	70.31	70.56	71.48	69.63	71.19	75.18	77.38	80.90	75.63	73.84
Transportation rate $/cwt/100 miles 6/	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Commission fee $/cwt	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Milo $/cwt	2.97	2.92	3.12	3.33	3.60	3.62	3.54	3.26	3.13	3.29	3.38
Corn $/cwt	3.53	3.36	3.51	3.69	4.10	4.07	3.86	3.55	3.60	3.76	3.84
Cottonseed Meal (41%) $/cwt 7/	11.30	11.30	11.30	11.00	11.00	11.00	11.30	11.30	11.30	13.90	13.90
Alfalfa hay $/ton 8/	78.00	83.00	83.00	73.00	75.00	85.00	80.00	75.00	77.00	78.00	84.00
Feed handling and management $/ton	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Interest, annual rate 9/	9.50	9.50	9.50	10.25	10.25	10.25	10.25	10.25	10.25	10.75	10.75

1/ Represents only what expenses would be if all selected items were paid for during the period indicated. The feed ration and expense items do not necessarily coincide with experience of individual feedlots. For individual use, adjust expenses and prices for management, production level, and locality of operation. Steers are assumed to gain 500 lbs in 180 days at 2.8 lbs per day with feed conversion of 8.4 lbs per pound gain. 2/ Texas Panhandle elevator price plus $0.15/cwt handling and transportation to feedlots. 3/ Most cattle sold f.o.b. at the feedlot with 4-percent shrink. 4/ Sale weight 1,056 lbs (1,100 lbs less 4-percent shrink). 5/ Choice slaughter steers, 900-1100 lbs, Texas-New Mexico direct. 6/ Converted from cents per mile for a 44,000-lb haul. 7/ Average prices paid by farmers in Texas. 8/ Average price received by farmers in Texas plus $30/ton handling and transportation to feedlots. 9/ Prime rate plus 2 points.

Table 11--Corn Belt cattle feeding: Selected costs at current rates 1/

Purchased during: / Marketed during:	Jan. 87 July 87	Feb. Aug.	Mar. Sept.	Apr. Oct.	May Nov.	June Dec.	July Jan.	Aug. Feb.	Sept. Mar.	Oct. Apr.	Nov. May
Expenses: ($/head)											
600 lb feeder steer	414.00	428.28	426.78	437.40	440.28	444.00	457.20	476.28	489.00	462.00	477.00
Transportation to feedlot-400 mile	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28	5.28
Corn (45 bu)	63.00	59.85	63.90	67.95	74.25	75.60	71.55	64.80	65.03	68.85	72.45
Silage (1.7 tons)	25.08	24.91	25.53	26.44	27.63	28.30	26.84	25.42	25.61	26.19	27.43
Protein supplement (270 lb)	32.67	32.67	32.67	31.32	31.32	31.32	33.21	33.21	33.21	34.43	34.43
Hay (400 lb)	9.40	9.70	9.60	9.70	9.70	10.00	9.50	9.40	9.50	9.40	9.80
Total feed costs	130.15	127.13	131.70	135.41	142.90	145.23	141.10	132.83	133.34	138.86	144.10
Labor (4 hours)	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72	15.72
Management (1 hr.) 2/	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86	7.86
Vet Medicine 3/	5.13	5.13	5.13	5.25	5.25	5.25	5.30	5.30	5.30	5.36	5.36
Interest on purchase (6 months)	22.98	23.77	23.69	23.84	24.00	24.20	25.15	26.20	26.90	25.92	26.76
Power, equip., fuel, shelter, deprec. 3/	23.91	23.91	23.91	24.46	24.46	24.46	24.70	24.70	24.73	25.01	25.01
Death loss (1% of purchase)	4.14	4.28	4.27	4.37	4.40	4.44	4.57	4.76	4.89	4.62	4.77
Transportation (100 miles)	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
Marketing expenses	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35
Miscellaneous and indirect costs 3/	10.34	10.34	10.34	10.58	10.58	10.58	10.69	10.69	10.69	10.82	10.82
Total	645.18	657.36	660.34	675.83	686.39	692.67	703.26	715.31	729.37	707.11	728.34
Selling price required to cover: ($/cwt)											
Feed and feeder cost (1050 lb)	51.82	52.90	53.19	54.55	55.54	56.12	56.98	58.01	59.27	57.23	59.15
All costs (1050 lb)	61.45	62.61	62.89	64.36	65.37	65.97	66.98	68.13	69.46	67.34	69.37
Feed cost per 100 lb gain (450 lb)	28.92	28.25	29.27	30.09	31.76	32.27	31.36	29.52	29.63	30.86	32.02
Choice steers, Omaha (900-1100 lb)	65.80	64.50	64.81	64.81	64.20	63.93					
Net margin	4.35	1.89	1.92	.45	-1.17	-2.04					
Prices:											
Feeder steer, Choice (600-700 lb) $/cwt											
Kansas City $/cwt	69.00	71.38	71.13	72.90	73.38	74.00	76.20	79.38	81.50	77.00	79.50
Corn $/bu 4/	1.40	1.33	1.42	1.51	1.65	1.68	1.59	1.44	1.45	1.53	1.61
Hay $/ton 4/	47.00	48.50	48.00	48.50	48.50	50.00	47.50	47.00	47.50	47.00	49.00
Corn silage $/ton 5/	14.76	14.65	15.02	15.55	16.25	16.65	15.79	14.96	15.06	15.41	16.14
Protein supplement (32-36%) $/cwt	12.10	12.10	12.10	11.60	11.60	11.60	12.30	12.30	12.30	12.75	12.75
Farm labor $/hour	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93
Interest rate, annual	11.30	11.10	11.10	10.90	10.90	10.90	11.00	11.00	11.00	11.22	11.22
Transportation rate $/cwt. per 100 mile	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
Mktg. expenses $/cwt 8/	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35	3.35
Index of prices paid by farmers (1910-14=100)	1091	1091	1091	1116	1116	1116	1128	1128	1128	1141	1141

1/ Represents only what expenses would be if all selected items were paid for during the period indicated. The feed ration and expense items do not necessarily coincide with experience of individuals for management, production level, and locality of operation. 2/ Assumes 1 hour at twice the labor rate. 3/ Adjusted monthly by the index of prices paid by farmers for commodities, services, interest, taxes, and wage rates. 4/ Average price received by farmers in Iowa and Illinois. 5/ Corn silage price derived from an equivalent price of 5 bushels corn and 330 lb hay. 6/ Average price paid by farmers in Iowa and Illinois. 7/ Converted from cents/mile for a 44,000-pound haul. 8/ Yardage plus commission fees at a Midwest terminal market.

increase in imported processing beef expected in 1988. Returns to cow-calf producers and stocker operators will be near 1987 levels, supported by tight supplies. The one area of concern continues to be the fed cattle sector. If feedlots can stay current, cash prices should exceed breakeven levels by the spring quarter. Fortunately, there appears to be enough concern within the industry to avoid a potential backlog if weather-related problems do not provide further disruptions.

Beef Imports Rise
As U.S. Supplies Decline

Total beef imports reached 2,039 million pounds during January-October 1987, up 13 percent from the same period last year. About two-thirds of the beef imports are fresh or frozen and are covered under the Meat Import Law. The remaining third is mainly prepared and preserved beef in airtight containers from countries such as Brazil and Argentina, who are prevented from shipping fresh or frozen meat to the United States because of the presence of hoof- and-mouth disease.

While meat subject to the quota (mainly beef) was up 14 percent in the first 10 months of 1987, imports during November and December were down because of the negotiated voluntary restraint agreements with Australia and New Zealand. Beef not covered by the quota was up about 12 percent in January-October 1987 from the same period last year. Beef imports for 1987 were up about 6 percent to 2,250 million pounds. Imports for 1988 are expected to be slightly higher.

The 1988 trigger level for meat covered under the Meat Import Law has been set at 1,525.5 million pounds, product weight. This represents an 85.5-million-pound increase from the 1987 trigger. The increase is due to reduced F.I. cow slaughter in 1987-88. Imports for 1988 subject to the law are estimated at 1,475 million pounds, well below the trigger level.

U.S. Exports More Beef

Beef exports during January-October 1987 were up 20 percent to 485 million pounds. Exports to Japan were up 8 percent to 312 million pounds in January-October 1987. The strengthening of the yen and expansion of the Japanese import commitment account for the increase. Japan usually accounts for about three-fourths of U.S. exports, but its share will be down in 1987. This is because of the doubling of exports to Canada to 26 million pounds in January-October 1987, and exports to Brazil and Venezuela under the Food Security Act of 1985. U.S. beef exports for 1987 are expected to be up 21 percent to 630 million pounds. Exports to Japan will continue to increase in 1988, but with the completion of shipments to Brazil, U.S. exports for 1988 are forecast down about 20 percent to 500 million

Imports of feeder cattle and calves and hogs from Canada and Mexico

Year and month	Feeder cattle and calves		Hogs
	Canada	Mexico	Canada
	Number		
1985			
Jan.	16,447	59,670	184,294
Feb.	32,962	4,416	142,330
Mar.	64,416	4,767	213,490
Apr.	53,996	4,303	89,183
May	34,615	15,684	124,103
June	21,872	26,073	108,799
July	13,124	21,278	108,481
Aug.	13,343	16,105	65,195
Sept.	13,963	16,884	48,421
Oct.	18,039	4,147	37,371
Nov.	28,747	101,638	38,630
Dec.	26,796	201,513	65,854
Total	338,320	476,478	1,226,151
1986			
Jan.	23,604	142,416	70,480
Feb.	27,346	75,302	47,021
Mar.	24,181	77,763	29,067
Apr.	20,536	54,507	33,260
May	21,734	102,787	25,128
June	18,511	41,353	38,926
July	25,485	53,808	81,333
Aug.	18,084	35,650	51,789
Sept.	16,122	20,333	41,133
Oct.	9,404	11,957	32,937
Nov.	13,938	203,827	21,013
Dec.	8,593	336,228	31,628
Total	227,538	1,155,931	503,715
1987			
Jan.	13,615	108,916	48,558
Feb.	19,154	131,631	20,745
Mar.	21,513	134,011	32,206
Apr.	28,569	92,943	47,763
May	27,497	46,567	31,270
June	35,431	95,977	35,143
July	14,568	28,333	40,183
Aug.	13,461	3,419	34,300
Sept.	11,138	12	37,560
Oct.	17,638	0	35,499

pounds. However, the 1988 export level is a sharp increase over 1984 and continues the long-term upward trend in U.S. beef exports.

Sheep and Lambs

Commercial lamb and mutton production increased from year-ago levels in November 1987. Commercial production in November was 25 million pounds and should exceed 28 million pounds in December, raising fourth-quarter production to the year-earlier level. Fourth-quarter prices for slaughter lambs in San Angelo averaged near $68, slightly higher than in 1986. Production in the first quarter of 1988 is expected to increase well above the first quarter of 1987, as Easter and Passover fall two weeks earlier this year and slaughter for those holidays will fall in the first quarter.

Cumulative imports of lamb through October moved above 1986 levels. As of October, the United States had imported 23.9 million pounds, compared with 23.6 million for the same period of 1986. Australia continues to be the largest exporter of lamb to the United States with New Zealand being second. Mutton exports to the United States continued above year ago levels through October of 1987. Combined lamb and mutton imports are expected to be up slightly in 1988.

Per capita supplies of lamb and mutton probably reached an all time low in 1987. This led to record high prices received by producers in 1987. Although the production of lamb and mutton is expected to increase about 7 percent in 1988, producers are still expected to have a profitable year, with prices averaging in the low $70's. However, prices in 1988 are not expected to reach the $90 peaks that were seen in 1987.

POULTRY AND EGGS

Broilers

Broiler production in 1987 was about 9 percent greater than in 1986. These larger supplies pressured broiler prices during 1987, keeping them, in general, below 1986 levels. Prices in 1987 averaged about 17 percent lower than the nearly 57 cents per pound received in 1986. The resulting lower net returns should slow the rate of increase in production to about 5 percent during 1988 as the industry adjusts output.

Broiler production during the first 11 months of 1987 was 9 percent greater than the comparable period in 1986. Placements of chicks for December slaughter and weekly slaughter data indicated that fourth-quarter production likely increased at a similar rate.

The 12-city wholesale broiler price moved mostly downward during the last half of 1987 to below breakeven during December. Higher feed prices during 1988 should increase the costs of production slightly, putting more pressure on net returns. Additionally, larger quantities of pork during 1988 may put pressure on broiler prices and further squeeze net returns. However, rising per capita

Table 12--Broiler chicks hatched and pullet chicks placed in hatchery supply flocks, 1985-87

Month	Broiler-type chicks			Pullet chicks placed in broiler hatchery supply flocks						
				Monthly placements			Cumulative placements 7-14 months earlier			
	1985	1986	1987	1985	1986	1987	1985	1986	1987	1988
	Thousands									
January	401,666	409,336	439,618	3,471	3,395	4,077	27,277	27,483	29,039	33,028
February	364,542	376,092	406,140	3,017	3,420	3,699	27,286	27,940	29,427	33,254
March	418,842	432,871	457,224	3,603	3,675	4,111	26,771	27,374	29,523	32,805
April	411,739	424,078	454,271	3,884	4,062	4,713	26,647	27,156	29,722	32,185
May	423,991	438,623	471,162	3,672	3,938	4,055	26,733	27,321	30,148	32,612
June	410,815	428,691	458,337	3,162	3,515	4,181	26,225	27,002	30,242	32,264
July	407,502	429,883	458,908	3,400	3,672	3,995	25,944	26,868	30,603	
August	406,426	415,991	449,920	3,165	3,846	3,974	25,895	26,591	30,742	
September	380,138	401,676	430,664	3,253	3,594	3,457	25,513	26,849	30,926	
October	382,559	416,193	438,841	3,182	3,846	4,126	25,981	27,124	31,365	
November	379,050	402,582	420,234	3,284	3,769	3,763	26,790	28,021	32,232	
December	414,886	437,287		3,750	4,423		27,384	28,706	32,693	

Table 13--Broilers: Eggs set and chicks placed weekly in 12 commercial States, 1985-87 1/

Period 2/	Eggs set			Chicks placed		
Month and day 2/	1985/86	1986/87	Percent of previous year	1985/86	1986/87	Percent of previous year
	- - - Thousands - - -		Percent	- - - Thousands - - -		Percent
January						
3	106,001	112,239	106	80,824	87,426	108
10	105,152	112,724	107	80,877	86,370	107
17	105,076	112,986	108	81,804	85,671	105
24	105,633	112,882	107	81,488	86,904	107
31	108,304	112,933	104	80,843	86,482	107
February						
7	108,728	112,014	103	79,598	86,509	109
14	109,260	111,216	102	80,676	87,285	108
21	110,277	115,079	104	82,979	87,483	105
28	109,357	116,488	107	82,851	87,031	105
March						
7	110,042	116,092	105	83,467	86,840	104
14	109,442	115,863	106	84,160	88,959	106
21	108,250	114,802	106	85,298	90,621	106
28	110,140	117,294	106	85,881	90,026	105
April						
4	110,460	117,906	107	85,443	90,398	106
11	110,677	118,571	107	83,207	88,829	107
18	110,395	117,036	106	85,469	91,200	107
25	108,137	116,956	108	85,332	92,484	108
May						
2	111,255	115,800	104	85,533	92,095	108
9	110,057	118,008	107	85,285	91,205	107
16	111,227	118,061	106	83,996	90,402	108
23	111,069	117,457	106	86,487	90,787	105
30	111,279	119,303	107	85,652	92,252	108
June						
6	111,516	118,542	106	86,167	91,576	106
13	110,795	117,880	106	86,494	91,223	105
20	110,838	118,958	107	85,975	92,237	107
27	105,571	115,620	110	85,939	93,280	109
July						
4	110,117	109,321	99	85,830	91,953	107
11	109,891	115,523	105	86,494	91,740	106
18	110,171	113,937	103	81,253	90,144	111
25	109,324	113,876	104	84,366	84,701	100
August						
1	108,800	113,436	104	83,908	89,454	107
8	106,725	113,167	106	82,990	87,379	105
15	106,158	112,929	106	81,299	88,059	108
22	108,128	112,831	104	80,056	88,048	110
29	108,137	113,332	105	77,814	87,215	112
September						
5	105,998	111,902	106	79,070	86,597	110
12	105,154	107,605	102	80,804	86,511	107
19	103,796	105,756	102	82,698	87,741	106
26	106,794	109,237	102	80,765	86,550	107
October						
3	109,679	114,480	104	80,844	84,037	104
10	107,956	110,955	103	79,043	81,388	103
17	100,314	102,216	102	81,120	84,103	104
24	103,092	102,058	99	83,824	89,066	106
31	108,830	112,557	103	81,482	87,561	107
November						
7	112,545	115,958	103	76,349	80,500	105
14	112,463	117,300	104	78,036	80,373	103
21	112,180	117,500	105	82,577	88,265	107
28	111,120	117,541	106	86,812	91,238	105
December						
5	107,070	111,782	104	87,008	92,466	106
12	112,199	116,384	104	86,298	92,395	107
19	112,160	117,033	104	86,152	92,921	108
26	110,826	115,976	105	82,637	88,058	107

1/ 12 States: Ala., Ark., Calif., Del., Fla., Ga., Md., Miss., N.C., Pa., Tex., and Va.
2/ Weeks in 1986/87 and corresponding weeks in 1986.

Table 14--Young chicken prices and price spreads, 1986-87

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
						Cents per pound							
Farm price 1/													
1986	30.6	29.2	29.7	29.5	32.2	35.4	42.7	43.9	36.5	39.3	34.9	30.6	34.5
1987	31.1	30.1	29.1	29.6	30.0	27.6	28.1	31.6	28.5	25.2	26.4	24.6	28.5
Wholesale RTC 12-city av. 2/													
1986	51.7	49.0	50.3	50.0	54.6	58.3	69.1	69.7	61.0	61.6	57.5	50.0	56.9
1987	51.8	49.8	48.5	48.6	50.5	45.5	47.0	52.6	46.4	43.2	44.6	39.8	47.4
U.S. av. retail price													
1986	76.6	77.1	76.7	75.2	76.9	79.5	88.9	95.8	91.0	90.0	87.8	86.5	83.5
1987	82.1	83.2	80.4	79.2	78.2	77.1	75.5	78.5	79.3	79.1	75.6	73.6	78.5
Price spreads Retail-to-cons.													
1986	19.5	21.8	21.0	19.2	16.3	15.5	16.4	20.0	21.6	20.5	22.6	30.0	20.4
1987	24.3	26.8	25.2	25.3	21.2	25.3	21.2	20.2	33.1	30.2	25.2		
						1967 = 100							
Retail pr. index Wh. chickens													
1986	215.3	216.5	217.3	213.0	217.5	225.2	249.9	271.2	257.3	256.1	252.2	248.1	236.6
1987	245.0	243.5	236.2	231.9	231.5	228.8	225.4	233.7	235.0	231.8	223.8	220.9	232.3

1/ Live weight. 2/ Beginning May 1983, 12-city composite weighted average.

disposable income during 1988 should enhance the demand for meat, alleviating some of the downward pressure on prices.

Broiler production in 1988 will likely increase about 5 percent from the 1987 level. Monthly hatch and weekly chick placements indicate that first-quarter 1988 slaughter will be approximately 6 percent greater than the same quarter a year ago. The rate of increase in the estimated broiler hatchery supply flock, a longer term indicator of production capacity, is slowing. The broiler hatchery supply flock is an estimate of hens available to produce broiler chicks, and is the most visible estimate of the broiler industry production capacity. The June estimate of the hatchery supply flock, which corresponds with September 1988 slaughter, was about 7 percent greater than a year ago, down from the expected 15- and 13-percent increases for the first and second quarters of 1988, respectively. History has shown that broiler egg-laying capacity was not always fully utilized. In addition, the most recent monthly placements to the broiler hatchery supply flock were below those of a year ago.

The 12-city wholesale price during the last quarter of 1987 was 42 cents per pound, well below the year-ago price of 56 cents. The average price for 1987 was 47 cents, compared with 57 cents during 1986. Wholesale prices in 1988 are expected to drop further, averaging 41 47 cents per pound. The price during the first quarter of 1988 is expected to average in the 41 45 cent range. Prices will likely increase slightly during the second and third quarters due to barbecuing and other seasonal factors, with the average falling in the 41-47 cent range.

Turkeys

Turkey production during 1987 rose about 18 percent above 1986. The large increase in production kept prices near breakeven for most of the year. However, wholesale hen and tom turkey prices rose dramatically during the mid-November through late-December period when retailers ran short of supplies. The tightness occurred when retailers promoted turkey heavily with very low prices or, in some cases, free with minimum grocery purchases. Heavy holiday purchases were encouraged by these unusually attractive features, reducing turkey stocks from a record 640 million pounds on October 1 to 323 million pounds on December 1. The December 1 stocks were still 30 percent above a year earlier.

Table 15--Estimated costs and returns, 1986-87 1/

Year	Production costs		Wholesale		Net returns
	Feed	Total	Total costs 2/	Price 3/	
Market eggs (cts/doz)					
1986					
I	27.0	45.2	65.7	74.4	8.7
II	27.4	45.6	66.1	63.8	-2.3
III	25.3	43.5	64.0	71.3	7.3
IV	22.0	40.2	60.7	74.6	13.9
Year 4/	25.4	43.6	64.1	71.1	6.9
1987					
I	21.8	40.0	60.5	66.4	5.9
II	23.1	41.3	61.8	58.9	-2.9
III 5/	23.8	42.1	62.6	64.1	1.5
Broilers (cts/lb)					
1986					
I	14.7	22.7	44.7	50.4	5.7
II	15.0	23.0	45.0	54.2	9.2
III	15.0	23.0	45.0	66.5	21.5
IV	12.9	20.9	42.3	56.3	14.0
Year 4/	14.4	22.4	44.3	56.9	12.6
1987					
I	12.7	20.7	42.0	50.0	8.0
II	12.8	20.8	42.1	48.1	6.0
III 5/	14.3	22.3	44.1	48.8	4.7
Turkeys (cts/lb)					
1986					
I	20.9	34.6	59.6	60.8	1.3
II	21.7	35.4	60.6	72.3	11.7
III	22.1	35.8	61.1	83.1	22.0
IV	19.7	33.4	58.1	78.0	19.9
Year 4/	21.1	34.8	59.9	75.2	13.7
1987					
I	18.4	32.1	56.5	57.0	.5
II	18.2	31.9	56.1	58.7	2.6
III 5/	20.4	34.1	58.9	55.0	-4.0

1/ Costs and prices are weighted by monthly production. 2/ Based on farm cost converted to wholesale market value. 3/ Wholesale prices used are the 12-metro area egg price, 12-city weighted average broiler price, and a weighted average of 8-16 lb. young hens and 14-22 lb. toms in Central, Western, and Eastern Regions. 4/ Weighted average. 5/ Preliminary.

This reduction occurred while production was continuing to run sharply above the year- earlier level. Stocks at the end of the quarter are expected to be greater than usual as a result of large production during the fourth quarter. Nevertheless, disappearance of 6.0 pounds per person was about 13 percent greater than a year ago. Some of the large disappearance may be stored in home freezers for later consumption, as consumers took advantage of the attractive pricing. If so, it would contribute to the weakness expected in wholesale prices for turkey and other competing meats during the first half of 1988.

Production during 1988 is expected to be about 10 percent greater than in 1987, even though net returns during 1987 were near breakeven. Because net returns during the fourth quarter were near breakeven rather than sharply below breakeven as expected early in November, the rate of growth may not have slowed as much as was previously indicated. Net returns data indicate production should be slowing. But value- added products may be providing higher returns to vertically integrated firms, which are not captured in the current whole bird net returns calculation. Also, a desire to maintain or increase market share in the meat industry may be a factor.

The 10-percent increase forecasted for 1988 turkey production contrasts with grower intentions to produce 8 percent more turkey in 1988. Percent increases in intentions have not matched the percent increases in meat production, especially during the last three years. Intentions called for increases of 5, 10, and 11 percent in 1985 to 1987 while meat production increased 10, 11, and 18 percent during the same period, respectively.

Poults placed during September through November indicate that first--quarter 1988 production is likely to be 18 percent above a year ago despite near breakeven prices during most of 1987. Second--quarter production is expected to be 15 percent larger than the same quarter in 1987, and second- half production is expected to be about 6 percent above the second half of 1987.

Table 16--Turkey hatchery operations, 1985-88 1/

Month	Total turkey placed 2/			Eggs in incubators first of month, changes from previous year		
	1985-86	1986-87	1987-88	1985-86	1986-87	1987-88
	- - Thousands - -			- - - Percent - - -		
Sept.	10,661	13,620	15,078	+20	+18	+20
Oct.	12,451	14,135	16,699	+8	+17	+18
Nov.	12,648	13,836	17,703	+13	+11	+21
Dec.	14,448	17,705	19,894	+17	+18	+14
Jan.	17,204	21,118		+8	+26	+12
Feb.	18,608	22,630		+13	+15	
Mar.	20,761	25,172		+8	+18	
Apr.	23,065	26,093		+10	+15	
May	24,337	26,552		+9	+14	
June	23,394	27,023		+10	+14	
July	22,310	26,000		+13	+18	
Aug.	16,405	19,992		+8	+22	

1/ Breakdown by breed not shown to avoid disclosing individual operations. 2/ Excludes exported poults.

Table 17--Turkeys: Number raised in 1986-87 and number intended to be raised in 1988

State	Number			1987 as a percentage of 1986	1988 as a percentage of 1987
	1986	1987	1988 1/		
	- - 1,000 head - -			- - Percent - -	
Arkansas 2/	16,500	18,000	19,500	109	108
California 2/	21,900	25,500	27,000	116	106
Colorado 2/	3/	3/			
Connecticut	40	30		75	
Delaware	4/	4/			
Georgia 2/	2,426	2,432	2,493	100	103
Illinois	347	698		201	
Indiana 2/	9,370	13,000	14,700	139	113
Iowa 2/	7,000	8,500	8,500	121	100
Kansas	104	193		186	
Maryland	125	133		106	
Massachusetts	145	140		97	
Michigan	2,700	3,000		111	
Minnesota 2/	34,200	40,500	44,000	118	109
Missouri 2/	13,500	15,500	17,000	115	110
Nebraska	1,437	1,942		135	
New Hamphire	26	26		100	
New Jersey	100	115		115	
New York	343	437		127	
North Carolina 2/	39,100	48,350	53,600	124	111
North Dakota 2/	1,000	1,200	1,300	120	108
Ohio 2/	3,100	3,400	3,600	110	106
Oklahoma 2/	3/	3/			
Oregon 2/	1,540	1,830	2,200	119	120
Pennsylvania 2/	7,800	8,000	8,200	103	103
South Carolina 2/	3,900	3,950	4,650	101	118
South Dakota 2/	1,968	2,376	2,450	121	103
Texas 2/	3/	3/			
Utah 2/	3,390	3,731	3,620	110	97
Virginia 2/	14,307	16,200	17,215	113	106
West Virginia	2,220	2,400		108	
Wisconsin 2/	6,128	5,450	5,400	89	99
Other States	12,500	13,316		107	
Total U.S.	207,216	240,349		116	

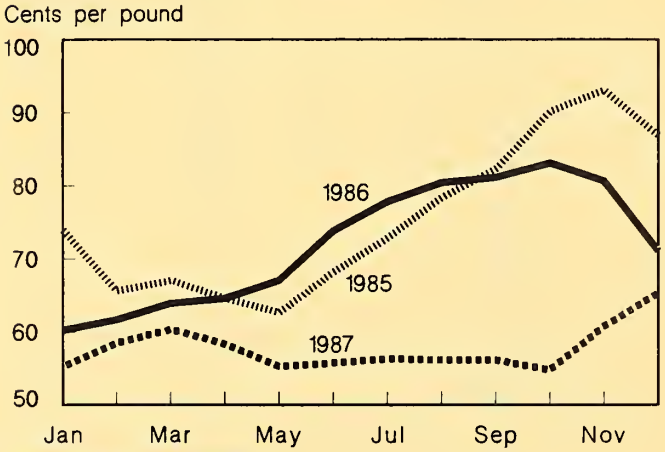
1/ Intentions to raise turkeys made in 20 States only.
2/ 20 States inclusive.
3/ Combined to avoid disclosure of individual operations.
4/ Maryland and Delaware combined.

Table 18--Turkey prices and price spreads, 1986-87

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
						Cents per pound							
Farm price 1/													
1986	35.6	36.3	36.9	38.1	40.9	45.9	49.3	50.9	51.4	53.0	51.5	43.0	44.4
1987	34.9	35.3	37.6	36.5	35.0	34.5	33.1	31.4	30.8	29.9	33.7	38.1	34.2
New York, hens 8-16 lbs 2/													
1986	60.3	61.7	63.9	64.6	67.1	73.8	77.9	80.5	81.2	83.2	80.7	71.1	72.2
1987	55.3	58.5	60.3	58.3	55.3	55.7	56.3	56.1	56.1	54.7	60.7	66.5	57.8
4-region average retail price													
1986	106.3	107.8	104.8	104.2	103.4	102.3	105.6	109.5	111.9	112.9	108.1	102.1	106.6
1987	103.6	103.2	103.0	100.4	102.8	105.1	105.8	105.1	103.3	102.6	90.0	89.3	101.2
Price spreads													
Retail-to-consumer													
1986	33.7	36.7	32.5	31.3	27.1	19.0	19.3	19.5	21.7	20.2	16.2	21.8	24.9
1987	39.8	37.4	35.4	33.4	37.3	40.1	41.1	41.8	39.0	38.3	22.0		
						December 1977=100							
Consumer pr. index													
1986	142.1	143.2	141.4	139.6	140.7	139.8	141.1	142.2	145.8	149.1	145.0	143.0	142.8
1987	144.2	142.0	142.5	139.5	142.1	142.3	142.7	142.1	139.3	139.0	131.8	132.2	140.0

1/ Live weight. 2/ Wholesale, ready-to-cook.

Wholesale Hen Turkey Prices, Eastern Region



December 1987 price preliminary.

Net returns were positive during the first half of 1987, negative during the third quarter, and near zero during the fourth quarter. Increased production during 1988 and burdensome cold storage stocks are likely to keep prices below breakeven. With increased turkey production, greater supplies of chicken and pork, and a slight increase in feed costs, net returns are expected to remain negative throughout the year.

The average wholesale hen turkey price in the eastern region for 1987 was about 58 cents per pound, down from 72 cents in 1986. The 1988 price is expected to average in the 51-57 cent range. The hen turkey price for the first quarter is expected to average in the 50-54 cent range, and slowly move upward towards breakeven in fourth-quarter 1988.

Eggs

During 1987, U.S. egg producers continued the modest upward trend in production begun in early 1986. Production for 1987 was about 1.4 percent above the 1986 level. Second half 1987 production appears to have been particularly strong, up more than 1 percent from the comparable period in 1986. About one third of this increased production was for hatching use, while two thirds was available for increased consumption of table eggs and egg products, both here and abroad.

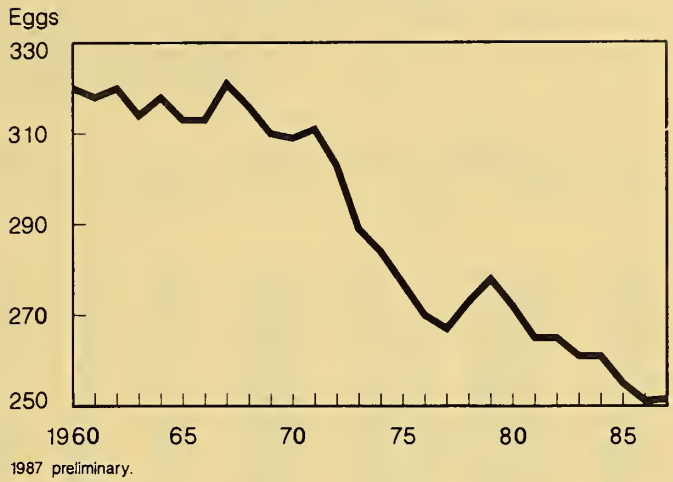
Wholesale prices fell about 10 cents per dozen (or just over 13 percent) during the year, in response to the increased production and inelastic demand. (See box). At the current level of 57 cents per dozen, net returns to egg producers are negative. This

Table 19--Layers on farms and eggs produced, 1986-87 1/

Quarters	Number of layers		Eggs per layer		Eggs produced	
	1986	1987	1986	1987	1986	1987
	- Millions -		- Number -		Million dozen	
I	280	283	60.9	60.9	1,421.9	1,435.8
II	277	280	62.7	63.0	1,446.8	1,472.5
III	273	277	62.4	62.1	1,418.0	1,433.3
IV	278	282	61.5	61.6	1,422.8	1,447.2
Annual	277	281	247.5	247.6	5,709.5	5,788.8

1/ Marketing year beginning December 1.

U.S. Per Capita Egg Consumption



1987 preliminary.

Table 20--Force moltings and light-type hen slaughter, 1985-87

Month	Force molted layers 1/						Light-type hens slaughtered under Federal inspection 2/ (Number of Head)		
	Being molted			Molt completed					
	1985	1986	1987	1985	1986	1987	1985	1986	1987
	- - - - Percent - - - -						- - - Thousands - - -		
January	2.3	3.6	4.2	17.8	25.2	20.9	18,928	13,890	13,004
February	4.6	4.8	4.6	16.6	23.5	19.1	13,674	12,221	13,196
March	3.8	4.2	3.8	15.6	24.4	20.1	13,311	14,201	13,451
April	3.0	2.8	2.8	15.6	24.0	19.6	13,819	14,761	14,752
May	5.6	5.4	5.4	14.6	22.1	18.8	12,336	13,277	12,871
June	6.0	4.4	6.4	16.0	22.8	18.5	9,079	14,875	13,933
July	5.4	5.4	4.7	19.1	21.9	20.5	9,774	12,280	12,481
August	4.4	3.9	4.9	20.3	21.4	21.0	10,204	11,682	12,518
September	4.9	3.9	5.3	21.2	20.8	21.7	9,317	11,231	10,813
October	5.8	4.7	4.9	21.6	20.2	21.3	9,336	12,472	11,784
November	5.3	4.2	4.2	23.6	20.7	21.4	9,170	10,019	11,389
December	3.2	2.5	3.4	25.2	22.0	22.5	13,127	13,006	

1/ Percent of hens and pullets of laying age in 15 selected States. 2/ Revisions include data from late reports or other corrections developed by the Food Safety and Inspection Service.

should result in a reduction of future production. As of December 1, 1987, the U.S. laying flock was about 2 percent larger than a year ago. This flock also appears to be only slightly older than the earlier one, as one-half percent more have completed a molt. Potential layers on December 1 (hens and pullets of laying age plus pullets 3 months and older) were also just under 2 percent above the year-earlier figure. Flock owners are culling older hens to maintain a highly productive flock. Egg production during 1988 is expected to be slightly below the 1987 total, with significantly reduced second half production accounting for the decline.

Per capita consumption for 1987 of over 251 eggs was nearly the same as in 1986. The outlook for 1988 points to a reduction in per capita consumption, continuing the long-term downward trend. Factors influencing reduced egg consumption include changed eating habits as fewer people eat large breakfasts, and general health concerns about cholesterol. (See graph).

Table 21--Egg-type chick hatchery operations, 1985-1987

Month	Hatch			Eggs in incubator first of month, changes from previous year		
	1985	1986	1987	1985	1986	1987
	- - Thousands - -			- - Percent - -		
Jan.	28,289	34,538	34,175	-20	+13	+5
Feb.	28,419	34,826	35,176	-24	+25	+4
Mar.	36,923	39,523	42,339	-23	+11	+5
Apr.	40,873	42,359	42,066	-17	+5	-2
May	38,967	42,465	41,422	-19	+8	+1
June	33,838	37,253	38,003	-26	+6	+1
July	32,094	33,575	33,461	-16	+10	-4
Aug.	32,503	33,382	35,296	-11	+4	+8
Sept.	33,568	32,638	32,495	0	+2	+4
Oct.	33,593	32,444	34,196	+7	-4	+9
Nov.	33,606	27,456	31,047	+15	-16	+10
Dec.	34,164	33,262		+25	-3	-7

Table 22--Shell eggs broken and egg products produced under Federal inspection, 1986-87

Period	Shell eggs broken	Egg products produced 1/		
		Liquid 2/	Frozen	Dried
	Thou. doz.	Thou. lbs.	Thou. lbs.	Thou. lbs.
1986				
January	67,415	50,206	28,122	6,574
February	61,356	46,368	24,252	6,556
March	59,034	45,856	23,221	5,429
April	74,396	55,105	30,434	7,760
May	74,076	58,477	27,510	8,529
June	78,479	61,323	30,830	7,724
July	78,719	59,815	31,381	7,229
August	74,041	56,353	28,228	7,102
September	72,314	55,668	27,516	6,578
October	80,077	61,450	32,255	8,045
November	63,605	50,759	26,584	6,481
December	73,929	54,255	31,866	8,084
1987				
January	73,724	60,730	29,042	8,981
February	71,122	56,722	27,250	8,159
March	80,467	62,181	31,909	8,725
April	74,135	59,667	27,750	8,428
May	77,451	63,678	28,307	9,242
June	85,391	70,737	27,781	9,788
July	86,461	66,418	30,972	9,622
August	79,928	63,434	27,454	8,356
September	78,419	66,554	28,455	7,157
October	81,959	66,903	34,433	8,504
November	73,557	56,097	29,511	8,037

1/ Includes ingredients added. 2/ Liquid egg products produced for immediate consumption and for processing.

Wholesale New York grade A large egg prices for 1987 averaged about 62 cents per dozen, well below the 71 cents recorded in 1986. The December price averaged 59 cents, sharply down from the 76-cent price recorded in December 1986. Prices are expected to average between 55 and 59 cents during the first quarter of 1988, and 53 to 59 cents for the second quarter. Higher prices are expected for the second half of 1988, as result of projected reduced supplies and increased seasonal baking demand. For 1988, egg prices are expected to average from 58 to 64 cents per dozen.

Inelastic Demand

As used here, the elasticity of a demand curve (such as the demand for eggs), can be thought of in terms of the responsiveness of consumers of a good (i.e. how much of that good they buy) when its price changes. In other words, if the price of eggs falls by 1 percent, by how much (in percentage terms) will consumption increase? By saying that the demand for eggs is inelastic, we mean that a 1 percent change in the price of eggs will result in *less than* a 1 percent increase in the quantity of eggs consumed. The quantity of eggs demanded is relatively unresponsive to changes in their price.

Table 23--Egg prices and price spreads, 1986-87

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
						Cents per dozen							
Farm price 1/													
1986	58.3	54.0	61.4	49.2	48.8	42.1	51.9	55.3	55.4	50.3	60.0	58.3	53.8
1987	51.5	50.0	46.0	46.5	40.1	41.2	41.8	40.9	51.3	41.4	46.9	38.8	44.7
New York (cartoned) 2/ Grade A, large													
1986	73.3	68.3	80.8	65.7	65.2	59.2	73.0	72.8	72.6	69.6	77.2	75.5	71.1
1987	67.1	65.2	62.0	62.4	55.6	58.7	59.1	63.2	68.3	60.2	60.4	56.9	61.6
4-region average, Grade A, large Retail price													
1986	90.1	86.6	88.7	89.0	82.0	79.5	83.3	91.3	86.8	85.5	89.7	91.0	87.0
1987	86.2	82.3	80.0	78.6	76.3	71.1	76.3	73.0	83.7	77.8	80.5	73.3	78.3
Price spreads Retail-to-consumer													
1986	14.9	17.2	10.0	21.9	16.8	20.5	12.1	18.8	14.3	15.4	11.7	14.4	15.7
1987	17.4	14.5	16.5	15.3	20.8	12.7	16.4	15.7	13.6	18.4	18.4		
						1967=100							
Consumer price index													
1986	194.4	186.7	190.8	188.8	173.7	166.9	175.2	192.9	186.0	186.2	195.8	198.6	186.3
1987	193.2	187.4	180.0	174.6	169.5	161.2	168.2	164.4	187.0	175.1	179.9	163.8	175.4

1/ Market (table) eggs including eggs sold retail by the producer; data not available prior to 1982.
2/ Price to volume buyers.

Table 24--Shell eggs: Supply and utilization by quarters, 1985-87 1/

Year	Supply						Utilization				
	Beginning stocks	Production	Hatching use 2/	Eggs broken	Imports	Total supply	Ending stocks	Exports and shipments	Military	Civilian disappearance	
										Total	Per capita 3/
				- - - - Million dozen - - - -							Number
1985											
I	0.9	1,430.5	136.1	182.7	0.9	1,113.5	0.7	13.9	4.4	1,094.5	55.6
II	.7	1,407.5	139.7	216.7	2.3	1,054.1	.6	15.0	5.1	1,033.4	52.4
III	.6	1,407.7	133.7	214.1	1.1	1,061.6	.7	12.9	4.0	1,044.0	52.8
IV	.7	1,442.8	138.6	199.1	4.3	1,110.0	.7	14.2	4.3	1,090.8	55.0
Year	.9	5,688.4	548.1	812.6	8.6	4,337.2	.7	56.0	17.8	4,262.7	215.8
1986											
I	.7	1,423.3	139.2	187.8	3.0	1,100.0	.6	13.0	4.3	1,082.2	54.5
II	.6	1,421.2	144.7	227.0	3.3	1,053.5	1.1	12.4	3.8	1,036.2	52.0
III	1.1	1,413.3	140.9	225.1	1.2	1,049.7	.9	13.5	4.0	1,031.3	51.7
IV	.9	1,457.2	141.1	217.6	3.4	1,102.7	.7	13.9	3.9	1,084.2	54.2
Year	.7	5,714.9	565.9	857.4	11.0	4,303.3	.7	52.7	16.0	4,233.9	212.4
1987 4/											
I	.7	1,442.5	147.5	225.3	1.9	1,072.3	1.0	14.1	3.9	1,053.3	52.5
II	1.0	1,437.5	153.6	237.0	0.1	1,048.0	1.0	13.7	3.4	1,029.9	51.2
III	1.0	1,435.8	147.8	244.8	0.1	1,044.3	1.0	14.3	4.2	1,024.8	50.8

1/ Totals may not add because of rounding. 2/ Hatching use for 1986 calculated by the new method. 3/ Calculated from unrounded data. 4/ Preliminary.

Table 25--Total eggs: Supply and utilization by quarters, 1985-87

Year	Supply					Utilization				
	Production	Imports 1/	Beginning stocks	Total supply	Ending stocks 1/	Exports and shipments 1/	Eggs used for hatching	Military 1/	Domestic disappearance Civilian	
									Total	Per capita 2/
	- - Million dozen - -									Number
1985										
I	1,430.5	2.2	11.1	1,443.8	11.0	24.5	136.1	5.1	1,267.2	64.4
II	1,407.5	3.3	11.0	1,421.8	12.2	24.5	139.7	5.6	1,239.7	62.8
III	1,407.7	2.3	12.2	1,422.2	13.1	25.0	133.7	4.5	1,245.9	63.0
IV	1,442.8	4.9	13.1	1,460.7	10.7	27.0	138.6	5.0	1,279.4	64.5
Year	5,688.4	12.7	11.1	5,712.2	10.7	101.0	548.1	20.2	5,032.2	254.7
1986										
I	1,423.3	3.6	10.7	1,437.5	8.7	33.4	139.2	4.6	1,251.6	63.0
II	1,421.2	4.0	8.7	1,433.9	11.9	28.2	144.7	4.2	1,245.0	62.5
III	1,413.3	2.2	11.9	1,427.4	11.5	36.5	140.9	4.5	1,234.0	61.8
IV	1,457.2	4.0	11.5	1,472.6	10.5	31.5	141.1	4.2	1,285.4	64.2
Year	5,714.9	13.8	10.7	5,739.4	10.5	129.6	565.9	17.5	5,016.0	251.4
1987 3/										
I	1,442.5	2.6	10.4	1,455.5	11.9	30.9	147.5	4.5	1,260.6	62.8
II	1,437.5	1.2	11.9	1,450.7	13.8	28.5	153.6	4.1	1,250.6	62.1
III	1,435.8	1.0	13.8	1,450.6	13.5	27.6	147.8	4.6	1,257.1	62.3

1/ Shell eggs and the approximate shell-egg equivalent of egg products. 2/ Calculated from unrounded data. 3/ Preliminary.

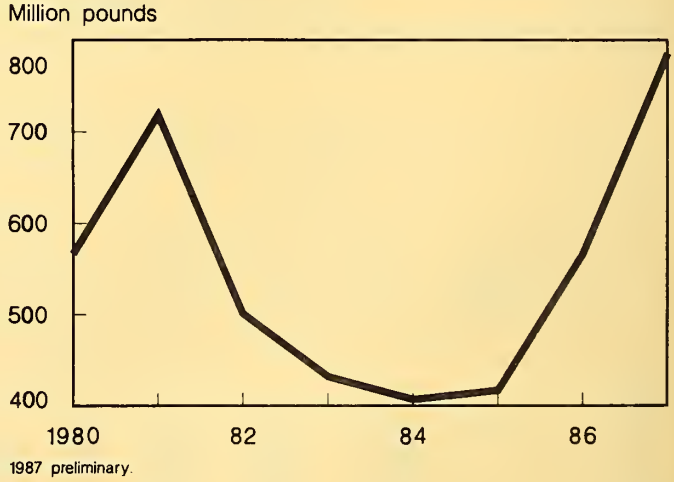
U.S. Poultry Trade

Broilers

U.S. broiler exports during January-October 1987 were up 42 percent over the same period in 1986. Total 1987 exports likely surpassed the 1981 record of 719 million pounds and represented 5 percent of total U.S. broiler production. (See graph). Exports in 1988 are expected to exceed 1987 levels due to increased commercial sales and sales under the Export Enhancement Program (EEP).

Japan, the largest importer of U.S. broilers, continues to account for nearly 25 percent of the total. But Japan's imports from the United States did not grow as fast in 1987 as in 1986, reflecting increased competition from other countries. Thailand, which is rapidly increasing broiler exports, is a major supplier of de-boned chicken legs to Japan. Japan's imports from Thailand in 1987 probably equaled or exceeded those from the United States. Brazil is also an important supplier, but preliminary data indicate its exports to Japan declined slightly in 1987, to about 30 million pounds.

U.S. Broiler Exports



Large U.S. exports to Iraq and large increases to Egypt and to Spain's Canary Islands were due to sales under the EEP. New EEP initiatives were announced on November 3 to sell 44 million pounds of frozen poultry to Saudi Arabia and 35.3 million pounds to the Persian Gulf countries of Bahrain, Kuwait, Oman, Qatar, and the United Arab Emirates. On November 25, an additional initiative to Iraq for 66 million pounds was announced. To

Table 26--U.S. Broiler Exports to Major Importers, January-October, 1986-1987

Country or area	1986	1987
	1000 lbs.	
Japan	133,317	143,952
Iraq	0	113,492
Hong Kong	65,095	97,259
Egypt	29,104	48,578
Singapore	42,350	44,106
Canada	24,435	39,747
Jamaica	43,153	34,807
Mexico	24,095	21,633
Leeward-Windward Is.	18,571	18,165
Netherlands Antilles	8,654	13,605
French Pacific Is.	8,081	9,133
Spain	2,712	5,219
Saudi Arabia	3,573	4,120
Bermuda	1,964	2,439
Federal Rep. of Germany	7,126	2,283
United Arab Emirates	1,215	2,029
Bahamas	1,912	1,993
Barbados	3,055	1,942
South Africa	703	1,610
Netherlands	1,872	1,483
France	2,703	1,209
Pacific Is. Trust Terr.	2,470	0
Other	21,246	18,061
Grand Total	440,361	624,173

Table 27--U.S. Turkey Exports to Major Importers, January-October, 1986-1987

Country or area	1986	1987
	1000 lbs.	
Federal Rep. of Germany	2,281	3,595
Canada	2,054	3,497
Japan	2,123	1,735
Mexico	834	1,414
Hong Kong	1,077	1,406
Taiwan	17	1,217
Western Samoa	1,477	1,107
Marshall Islands	0	954
Fed. States of Micronesia	0	951
Egypt	3,312	946
Leeward-Windward Is.	318	532
French Pacific Is.	33	531
Jamaica	77	449
Senegal	0	434
Haiti	10	425
Togo	42	293
Cameroon	0	290
Bahamas	463	270
Saudi Arabia	592	232
Gabon	199	204
Pacific Is. Trust Terr.	1,351	0
Other	2,239	2,434
Grand Total	18,499	22,916

counteract the new EEP initiatives, the European Community (EC) in December extended its higher poultry export subsidy rates to the Middle East countries involved.

U.S. exports were also up sharply to Hong Kong. China and the United States are the major suppliers to Hong Kong, but most of China's exports are live chickens. Broiler consumption in Hong Kong has increased to nearly 50 pounds per capita per year due to comparatively low poultry meat prices and the increased use of convenience foods and fast food restaurants.

Other Poultry Meat

U.S. exports of mature chicken during 1987 were at approximately the same level as during 1986, totalling a relatively low 16 million pounds. The announcement on November 30 of an EEP initiative for sales opportunities of up to 15.4 million pounds of mature chicken to Zaire should result in a sharp increase in these exports during 1988.

U.S. exports of turkey meat during 1987 were at the highest level since 1983, and were up nearly 20 percent compared to 1986. Turkey exports, estimated at 32 million pounds, accounted for only 0.8 percent of production. West Germany, the world's largest importer of turkey, is also the leading importer from the United States. However, large EC importers, including West Germany, the Netherlands, Belgium, and the U.K., are supplied mainly from other EC countries, particularly France. Imports of U.S. turkey by Canada and Taiwan were also up sharply. U.S. turkey exports during 1988 are expected to be at about the same level as in 1987.

Eggs

U.S. egg exports from January through October 1987 were about 10 percent below the same period in 1986. In 1986, exports increased 44 percent, mainly due to a 75-percent increase to Japan, as the dollar dropped 30 percent relative to the Japanese yen. But through October 1987, U.S. egg exports to Japan were down 35 percent, with whole eggs or egg yolks not dried down 70 percent, primarily because of increased competition in egg products from the EC. Conversely, the United States did increase egg

Table 28--U.S. Mature Chicken Exports to Major Importers, January-October 1986-1987

Country or area	1986	1987
	1000 lbs.	
Canada	6,260	4,114
Mexico	3,165	2,639
Jamaica	144	2,080
Egypt	0	1,312
Netherlands	28	761
Japan	376	726
Hong Kong	121	460
Bahamas	314	398
Spain	0	340
Netherlands Antilles	91	231
French Pacific Is.	437	134
Leeward-Windward Is.	505	93
Saudi Arabia	43	64
Haiti	29	60
United Arab Emirates	23	46
Singapore	0	46
Marshall Is.	0	44
Jordan	0	43
Federal Rep. of Germany	0	27
Bermuda	37	21
Pacific Is. Trust Terr.	1,053	0
Other	377	182
Grand Total	13,003	13,821

Table 29--U.S. Egg Exports (1000 dozens) to Major Importers, January-October, 1986-1987 /1

Country or Area	1986	1987
Japan	58,579	37,871
Canada	10,139	12,360
Hong Kong	5,560	8,035
Trinidad-Tobago	1,738	1,859
Jamaica	874	1,665
United Kingdom	562	1,543
Dominican Republic	542	1,491
Switzerland	789	1,460
Federal Rep of Germany	777	1,328
Mexico	1,822	1,225
Denmark	34	1,143
Haiti	831	1,111
Peru	785	603
Korea	381	589
Suriname	499	579
Venezuela	153	511
Panama(inc. Canal Zone)	240	417
Barbados	296	398
Singapore	108	379
Phillppines	87	331
Colombia	140	254
Guyana	177	203
Netherlands	32	190
Bermuda	50	172
Netherlands Antilles	122	153
Marshall Islands	0	134
Austria	42	122
Pacific Is (Trust Terr)	265	0
Other	1,877	2,097
Grand Total	86,990	77,452

1/ Shell, and shell equivalent of egg products.

product exports to a number of European countries.

U.S. exports to the growing Hong Kong market were up 45 percent through October 1987 compared to a year earlier. China, Thailand, the United States and the Netherlands are major suppliers to Hong Kong. Over 90 percent of U.S. egg exports to Hong Kong were shell eggs, and were aided by the EEP. On November 16, a new EEP initiative to Hong Kong was announced, with sales of 4 million dozen completed before the end of the year. Recent low U.S. egg prices and the cheaper dollar have made the United States more competitive with the Netherlands, particularly for white eggs from the West Coast.

EEP sales in late 1987 to Iraq, the Near East, and Hong Kong, totaling some 23 million dozen, are expected to have boosted total 1987 egg exports above the 1986 level, as well as providing a good start for 1988.

Egg Imports

U.S. imports of eggs during January- October 1987 were down 50 percent compared to the same period in 1986 to only 5 million dozen, and total 1987 imports were expected at about 6 million dozen, the lowest since 1982's 2.5 million. Imports of shell eggs through October 1987 were down even more sharply---70 percent, with Israel and the Netherlands the leading suppliers at about 800,000 dozen each. U.S. prices became more competitive with the Netherlands.

Nearly 60 percent of total U.S. imports came from Canada, almost all in the form of egg products. These imports were up about 9 percent compared to the same period in 1986. The U.S. dollar dropped only 5 percent relative to the Canadian dollar in 1987, thus keeping Canadian prices relatively competitive compared to other egg exporters. Total U.S. imports of eggs are expected to drop further in 1988, to about 4 million dozen.

HOW PORK BELLY CASH AND FUTURES PRICES INFLUENCE COLD STORAGE DECISIONS

by

John Ginzel
and
Kevin Bost

Abstract: The ratio between cash wholesale pork belly prices and pork belly futures prices is referred to as the basis. The pork belly basis is influenced by seasonal characteristics in the hog sector and reflects the current supply and demand situation relative to expectations of future supply and demand conditions. A high basis ratio encourages current consumption and freezer stock liquidation; a low basis ratio encourages freezer stock accumulation and postponement of consumption. Market signals generated in the first 2 months of the 1987-88 marketing year (November 1987-August 1988) encouraged a rapid buildup in cold storage stocks. The basis ratio signals and subsequent freezer stock accumulation in March and April can be monitored for insight into the 1988 outlook for hog and pork belly prices.

Key Words: Pork Bellies, Stocks, Futures, Basis, Cold Storage

Introduction

Pork bellies are the unprocessed side portions of hog carcasses from which bacon is made. High quality bacon is produced only from barrow and gilt bellies. This discussion will deal only with high quality bacon, thus, only barrow and gilt bellies will be considered. A typical 220-260 pound barrow or gilt carcass yields two pork bellies, weighing 12-16 pounds each.

The demand for pork bellies is derived from the demand for bacon. Bacon demand - hence processor demand for pork bellies - exhibits a distinct seasonal pattern. During its strongest period (the summer months), the quantity of bacon demanded is greater than that which can be supplied from current hog slaughter, which is seasonally low. At other times (spring and fall) the reverse is true, as fresh belly production exceeds quantity demanded.

In order to better match quantity supplied with quantity demanded, a storage market exists. During times when fresh belly production surpasses quantity of current bacon demand, pork bellies are frozen and stored for later consumption. When production is insufficient to satisfy current demand, stocks of frozen pork bellies are drawn down to augment fresh supplies.

The decision relating to freezer accumulation of pork bellies is influenced by price signals from the pork belly futures market. Therefore, the overall pork belly market consists of cash and futures components. This study draws information from both components of this market and identifies and quantifies some major factors.

Fresh versus Frozen Pork Bellies

Fresh pork bellies and frozen pork bellies are not perfectly interchangeable. From the processor's standpoint, the quality of bacon produced from fresh pork bellies is generally considered superior to that from frozen pork bellies. From the supplier's standpoint, the cost of freezing and storing bellies increases the value of frozen bellies for later consumption relative to the fresh product at the current date. To some extent, therefore, the two commodities are differentiated.

A distinction may also be drawn between the market for fresh pork bellies and the market for frozen pork bellies. In the market for fresh pork bellies, supply is determined by current hog slaughter. Demand comes from

two basic sources: from bacon processors, who make fresh bellies available for immediate bacon consumption; and from storage operations, which freeze the bellies and store them for later use. In the market for frozen bellies, supply is determined by cold storage stocks. The sole source of demand is the bacon processors. Together, these two "submarkets" constitute the total supply of pork bellies for bacon processors.

Historical Patterns

Frozen pork belly stocks are typically at their lowest in October, near the end of the marketing year. The highest point is usually reached in June. The difference in stock levels between these two points is quite large. Since 1973, October 1 stocks have averaged 23 percent of the average annual level, compared to 179 percent on June 1 (Table 1 and Chart 1).

The highest rates of freezer stock accumulation occur in November. The largest drawdowns occur in July. Chart 2 plots the average change in cold storage holdings during each month, with a one standard deviation band about the mean. 1/

The influence of freezer stocks on fresh pork belly prices is greatest when net storage movement is at its peak. Since 1973, an average of 11 percent of all bellies produced from barrows and gilts in November have gone into cold storage. During this period of maximum net in-movement, the storage operation exerts a positive influence on the price of fresh bellies which would otherwise be forced into consumption. In July, when out-movement is greatest, an average of 17 percent of total barrow and gilt belly disappearance has come from cold storage stocks. At this time of the year the storage operation exerts a downward influence on fresh belly prices by acting as an additional source of supply.

Figure 1
Frozen Pork Belly Stocks

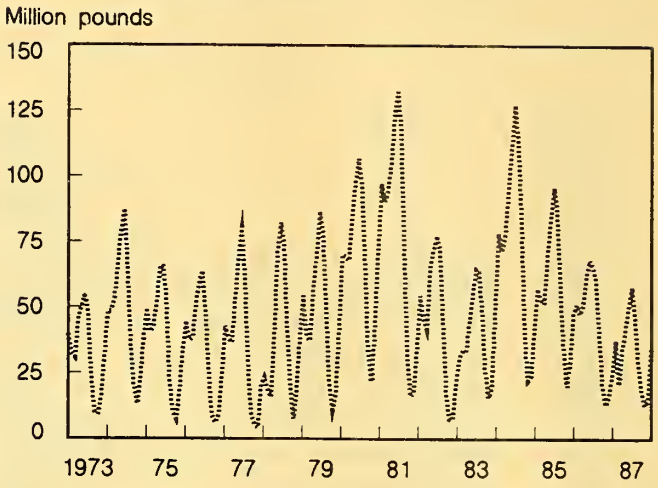
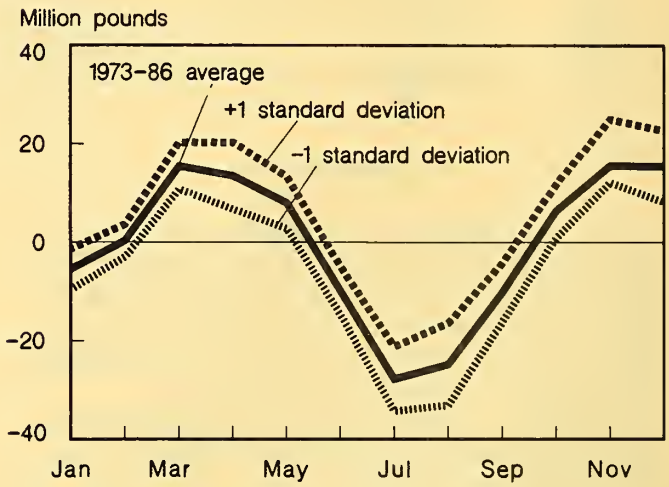


Figure 2
Monthly Changes in Frozen Pork Belly Stocks



Pork Belly Futures Contract

The pork belly futures contract which is traded at the Chicago Mercantile Exchange (CME) reflects the market for frozen pork bellies. The prices of these contracts represent the expected value of frozen pork bellies at certain contract delivery dates in the future. The price of March pork belly futures, for example, is the market's current expectation of what frozen pork bellies will be worth in March (less transaction costs and location differentials).

1/ We assume that monthly frozen pork belly stocks are normally distributed. The means and standard deviations by months are calculated and plotted. An observation for a random variable that is normally distributed is expected to be within one standard deviation about the mean 68% of the time. For a more complete description of a "normal distribution" and "standard deviation" see a text on statistics such as, Freund, J. E., Mathematical Statistics," Prentice Hall Inc., Englewood Clifts, New Jersy, ed. 2. 1971.

Table 1—BEGINNING OF MONTH FROZEN PORK BELLY STOCKS, MILLION POUNDS

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	AVERAGE 73-86	STD.DEV. 73-86
JAN	39.3	48.8	49.5	44.7	42.9	23.7	54.4	70.2	97.4	54.6	31.3	78.6	57.4	51.3	37.8	53.2	18.3
FEB	32.4	48.5	40.5	37.4	38.3	19.0	39.4	69.6	90.2	46.2	33.6	71.6	53.6	47.6	20.8	47.7	17.9
MAR	30.8	53.1	42.8	38.5	36.4	15.7	37.2	67.9	94.7	41.9	33.4	78.2	51.6	51.2	34.5	48.1	19.8
APR	46.4	65.2	51.8	51.2	52.8	39.6	57.7	85.4	104.5	66.1	44.3	95.0	68.3	62.5	41.8	63.6	18.6
MAY	50.2	78.7	65.6	60.1	69.5	71.0	69.7	98.2	125.5	72.5	54.5	112.2	83.8	68.3	50.5	77.1	20.7
JUN	55.0	87.3	65.5	63.8	80.7	82.3	86.7	106.9	132.6	77.5	64.7	127.5	96.0	65.9	58.2	85.2	22.8
JUL	48.8	70.5	53.4	49.3	62.7	75.0	78.9	97.0	117.8	72.6	63.5	115.0	88.4	61.5	47.4	75.3	21.4
AUG	26.3	39.6	23.0	25.8	29.9	44.8	53.4	68.6	73.0	45.5	48.4	85.6	61.4	40.3	28.7	47.5	18.4
SEP	10.2	21.8	10.1	8.7	9.6	21.0	21.8	34.4	36.1	18.5	26.6	43.6	35.8	20.8	18.9	22.8	10.9
OCT	9.1	12.9	7.4	5.9	5.2	7.5	11.1	21.9	16.2	7.6	15.7	22.3	20.2	12.9	12.9	12.6	5.7
NOV	15.4	22.3	17.6	9.7	4.2	20.0	17.7	42.2	18.1	7.5	20.0	24.0	29.8	17.0		19.0	9.1
DEC	31.6	38.4	33.5	24.9	20.6	41.0	42.2	72.1	35.1	20.0	52.9	41.9	47.4	24.5		37.6	13.5
ANNUAL	33.0	48.9	38.4	35.0	37.7	38.4	47.5	69.5	78.4	44.2	40.7	74.6	57.8	43.7			

* SHIFTED END OF MONTH STOCKS AS REPORTED IN COLD STORAGE TO BEGINNING OF NEXT MONTH.

MONTH TO MONTH CHANGES IN FROZEN PORK BELLY STOCKS, MILLION POUNDS - DERIVED

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	AVERAGE 73-86	STD.DEV. 73-86
JAN	-6.9	-0.3	-9.0	-7.3	-4.6	-4.7	-15.0	-0.6	-7.2	-8.4	2.3	-7.0	-3.8	-3.7	-17.0	-5.4	4.1
FEB	-1.6	4.6	2.3	1.1	-1.9	-3.3	-2.2	-1.7	4.5	-4.3	-0.2	6.6	-2.0	3.6	13.7	0.4	3.3
MAR	15.6	12.1	9.0	12.7	16.4	23.9	20.5	17.5	9.8	24.2	10.9	16.8	16.7	11.3	7.3	15.5	4.7
APR	3.8	13.5	13.8	8.9	16.7	31.4	12.0	12.8	21.0	6.4	10.2	17.2	15.5	5.8	8.7	13.5	6.8
MAY	4.8	8.6	-0.1	3.7	11.2	11.3	17.0	8.7	7.1	5.0	10.2	15.3	12.2	-2.4	7.7	8.0	5.3
JUN	-6.2	-16.8	-12.1	-14.5	-18.0	-7.3	-7.8	-9.9	-14.8	-4.9	-1.2	-12.5	-7.6	-4.4	-10.8	-9.9	4.9
JUL	-22.5	-30.9	-30.4	-23.5	-32.8	-30.2	-25.5	-28.4	-44.8	-27.1	-15.1	-29.4	-27.0	-21.2	-18.7	-27.8	6.5
AUG	-16.1	-17.8	-12.9	-17.1	-20.3	-23.8	-31.6	-34.2	-36.9	-27.0	-21.8	-42.0	-25.6	-19.5	-9.8	-24.8	8.3
SEP	-1.1	-8.9	-2.7	-2.8	-4.4	-13.5	-10.7	-12.5	-19.9	-10.9	-10.9	-21.3	-15.6	-7.9	-6.0	-10.2	6.0
OCT	6.3	9.4	10.2	3.8	-1.0	12.5	6.6	20.3	1.9	-0.1	4.3	1.7	9.6	4.1		6.4	5.5
NOV	16.2	16.1	15.9	15.2	16.4	21.0	24.5	29.9	17.0	12.5	32.9	17.9	17.6	7.5		18.6	6.4
DEC	17.2	11.1	11.2	18.0	3.1	13.4	28.0	25.3	19.5	11.3	25.7	15.5	3.9	13.3		15.5	7.2

CHANGE IN FROZEN PORK BELLY STOCKS RELATIVE TO BEGINNING OF MONTH, PERCENTAGE, DERIVED

MONTH	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	AVERAGE 73-86	STD.DEV. 73-86
JAN	-17.6	-0.6	-18.2	-16.3	-10.7	-19.8	-27.6	-0.9	-7.4	-15.4	7.3	-8.9	-6.6	-7.2	-45.0	-10.7	8.8
FEB	-4.9	9.5	5.7	2.9	-5.0	-17.4	-5.6	-2.4	5.0	-9.3	-0.6	9.2	-3.7	7.6	65.9	-0.6	7.5
MAR	50.6	22.8	21.0	33.0	45.1	152.2	55.1	25.8	10.3	57.8	32.6	21.5	32.4	22.1	21.2	41.6	33.6
APR	8.2	20.7	26.6	17.4	31.6	79.3	20.8	15.0	20.1	9.7	23.0	18.1	22.7	9.3	20.8	23.0	16.9
MAY	9.6	10.9	-0.2	6.2	16.1	15.9	24.4	8.9	5.7	6.9	18.7	13.6	14.6	-3.5	15.2	10.6	7.2
JUN	-11.3	-19.2	-18.5	-22.7	-22.3	-8.9	-9.0	-9.3	-11.2	-6.3	-1.9	-9.8	-7.9	-6.7	-18.6	-11.8	6.1
JUL	-46.1	-43.8	-56.9	-47.7	-52.3	-40.3	-32.3	-29.3	-38.0	-37.3	-23.8	-25.6	-30.5	-34.5	-39.5	-38.5	9.6
AUG	-61.2	-44.9	-56.1	-66.3	-67.9	-53.1	-59.2	-49.9	-50.5	-59.3	-45.0	-49.1	-41.7	-48.4	-34.1	-53.8	7.8
SEP	-10.8	-40.8	-26.7	-32.2	-45.8	-64.3	-49.1	-36.3	-55.1	-58.9	-41.0	-48.9	-43.6	-38.0	-31.7	-42.2	13.2
OCT	69.2	72.9	137.8	64.4	-19.2	166.7	59.5	92.7	11.7	-1.3	27.4	7.6	47.5	31.8		54.9	50.4
NOV	105.2	72.2	90.3	156.7	390.5	105.0	138.4	70.9	93.9	166.7	164.5	74.6	59.1	44.1		123.7	83.3
DEC	54.4	28.9	33.4	72.3	15.0	32.7	66.4	35.1	55.6	56.5	48.6	37.0	8.2	54.3		42.7	18.0
	POSITIVE VALUE IMPLIES A STOCKS ADDITION, NEGATIVE VALUE IMPLIES A LIQUIDATION.															11.6	

The marketing year for frozen pork bellies begins on November 1. Within each marketing year, there are five futures contracts: February, March, May, July, and August. Pork bellies which are produced on or after November 1 may be delivered against any futures contract in the same marketing year, assuming that other contract specifications are met.

Storage Decisions

Basically, there are two ways in which commercial pork belly processors utilize futures contracts to hedge against price variations. The first is referred to as a "storage (sell) hedge." In the storage hedge, the hedger owns or acquires fresh pork bellies, places them in cold storage, and sells futures contracts (goes short). By selling futures contracts, the hedger guards his inventory of frozen bellies against a decline in price and transfers price level risk to speculators who have bought the futures contract. The second approach is referred to as a "buy hedge." In the buy hedge, the hedger buys futures contracts as a means of protecting frozen pork belly price levels to meet upcoming sales commitments. By buying futures contracts, the hedger guards himself against an increase in price which may occur before he acquires the physical product.

The distinction between the two approaches may be viewed in several ways. With a storage hedge, the physical product is owned by the hedger. Through the physical inventory, he has an assured supply of frozen pork bellies for upcoming needs. The futures contract serves as a temporary substitute for a subsequent cash transaction in which he will sell pork bellies. The hedger has a "long" position in the cash market, and a "short" position in the futures market which allows the hedger to protect a price for the subsequent sale.

With a buy hedge, the hedger does not own the physical product. He will need the physical product in the coming months, and his upside price risk is passed to speculators who are holding a short position. The futures contract serves as a temporary substitute for a subsequent cash transaction in which he will acquire frozen or fresh pork bellies. The hedger has a "short" position in the cash market, and a "long" position in the futures market which allows the hedger to protect a price for the subsequent purchase of cash pork bellies.

Most important is the following distinction: With a storage hedge, physical inventories of frozen pork bellies are accumulated; with a buy hedge, there is no such inventory accumulation.

How does the hedger decide which approach to take? The decision is mostly economic, and market conditions indicate which approach is more profitable. It does so through the relationship between cash and futures prices, which is called the "basis". 2/

2/ Hieronymus discusses basis and its uses as:

- "...basis is the price of a cash commodity at the delivery point in relation to the nearby or dominate future." (p.152)
- "Statements of basis can be modified by location and by time." (p. 152)
- "It is sometimes useful to refer to the cash price in relation to the more distant future." (p.152)
- For users of futures markets, the important basis is that one that applies to the operational problem at hand." (p. 152)

Relationships Between Cash And Futures Prices for Pork Bellies

As it refers to the pork belly market, basis can be defined as the cash price of fresh pork bellies at a particular location and specification relative to the price of frozen pork belly futures. 3/

In this study, wholesale fresh pork belly prices represent the cash commodity and frozen pork belly futures traded on the CME represent futures. Cash market quotes for frozen pork bellies are not consistently available for basis calculations. In a strict context some would define this as a "cross product" basis, since fresh bellies are not deliverable against the futures contract. Hieronymus, T.A., Economics of Futures Trading, Commodity Research Bureau, Inc. One Liberty Plaza, New York, NY 10006. Feb. 1977 ed. 2. page 152.

In this discussion we refer to the basis ratio, which is the price of fresh bellies divided by a futures price. Thus, a basis ratio greater than 1.0 indicates a premium of fresh belly prices over the price of frozen pork belly futures. A basis ratio less than 1.0 indicates a discount of fresh belly prices under the price of frozen pork belly futures.

If the basis ratio is low enough to cover an acceptable part of storage costs, the

3/ The basis relationship can be represented as an *arithmetic basis*, (wholesale belly prices less pork belly futures) or as a *basis ratio* (wholesale belly prices divided by pork belly futures). A basis ratio is usually a more stable relationship over a longer period of time and over wider price ranges. Whenever major factors that influence price relationships between cash bellies and belly futures are more dependent upon price level (such as interest changes to finance the inventory) rather than a fixed change per unit (such as freezer cost per hundred weight per month), a basis ratio approach will be more stable. We are not aware of a convention when calculating a basis ratio. We prefer cash price divided by futures. This form of basis ratio calculations is convenient to use when developing product to product ratios, such as pork belly prices divided by hog prices and cross product basis ratios such as pork belly prices divided by live hog futures.

market provides an economic incentive to place fresh bellies in cold storage, with a storage hedge. If the basis ratio is too high, it is more profitable for commercials to sell fresh bellies into current consumption, rather than store them. A basis ratio above 1.0 almost always results in a movement of frozen pork bellies out of storage, since frozen bellies are priced below fresh bellies.

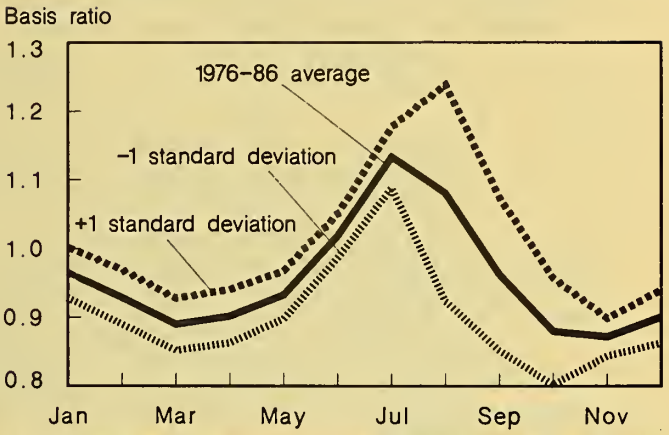
The demand for frozen pork bellies in any marketing year depends on the supply of fresh bellies relative to processor demand. Generally speaking, the greater the expected level of fresh belly production during the high-demand summer months, the less need for frozen belly stocks and the higher the basis ratio. In other words, if the market expects fresh belly production to be relatively high in the summer months, it will not encourage a buildup in cold storage stocks; this will be reflected in an above average basis ratio. If the market expects fresh belly production to be relatively low in the summer, it will encourage a buildup in cold storage stocks through a below-average basis ratio. In the latter case, the low price of fresh bellies relative to deferred futures prices will offer an attractive return to storage operations, and will discourage the sale of fresh bellies for current consumption.

Thus, through its price signals, the market indicates the need for inventories of frozen pork bellies during the marketing year. Packers, processors, and storage operations receive these signals from the market, and react to economic incentives. The result is that cold storage stocks tend to be high in years when basis ratios are below average. During years of above-average basis ratios, stocks tend to be low.

The regular storage pattern within the marketing year reflects seasonal changes in the basis. The November-December and March-May periods are characterized by relatively low basis ratios (futures premium to cash). The basis ratio increases in January and February, and moves above 1.0 (cash premium to futures) in the summer. Chart 3 plots the average nearby basis ratio (fresh belly prices divided by the nearby futures price) for each month, within one standard deviation bands.

From the standpoint of basis and storage, the current pork belly marketing year (which

Figure 3
Basis Ratio of Pork Bellies to Futures



12/14 wholesale fresh pork belly prices divided by nearest nondelivery belly futures, monthly average.

began November 1, 1987) contrasts sharply with the 1986/87 season. In November and December 1987 basis ratios were unusually low, prompting a very rapid accumulation of frozen belly stocks. It appears that about 50 million pounds were added to cold storage holdings during this period, well above the 1973-86 average of 34 million pounds. 4/ In November-December 1986, basis ratios were very high and net accumulation amounted to only 19 million pounds; consequently, frozen belly stocks in January 1988 were nearly twice as large as a year ago.

The current storage situation holds significant implications for the 1988 price outlook for pork bellies and hogs. During the summer months freezer stocks will be liquidated and priced into bacon slicing operations, supplementing fresh belly supplies. Farrowing intentions indicate that fresh belly production in the third quarter of 1988 may be 15 percent larger than a year ago. Such an increase in fresh belly supplies would not seem to warrant the rate of freezer stock accumulation that occurred in the early part of the marketing year. If basis ratios are below normal again in March and April, belly stocks may become burdensome, depressing belly and hog prices in the summer. Therefore, the situation bears watching. Basis ratio signals and freezer stock accumulation may lend insight into both current and forthcoming market conditions.

4/ December 31, 1987 stocks will be reported in USDA's *Cold Storage* report, scheduled for release subsequent to this writing.

GROWTH PROMOTING AGENTS AND THE U.S. HOG SECTOR: CURRENT RESEARCH AND ECONOMIC IMPLICATIONS

By

Shayle D. Shagam*

Abstract: Initial results from experimental studies indicate that laboratory synthesized repartitioning agents offer the opportunity to produce lean pork and substantially increase feed efficiency. By altering the way in which the animal's body utilizes nutrients, beta adrenergic agonists and somatotropin decrease fat and feed intake while increasing muscle mass and rate of gain. Although producers can expect cost reductions, increased production could reduce prices. Research indicates that management changes will be required. Use will depend upon consumer acceptance of both leaner pork and the use of laboratory synthesized repartitioning agents.

Keywords: Pork, growth hormones, somatotropin, feed efficiency, beta adrenergic agonists.

Introduction

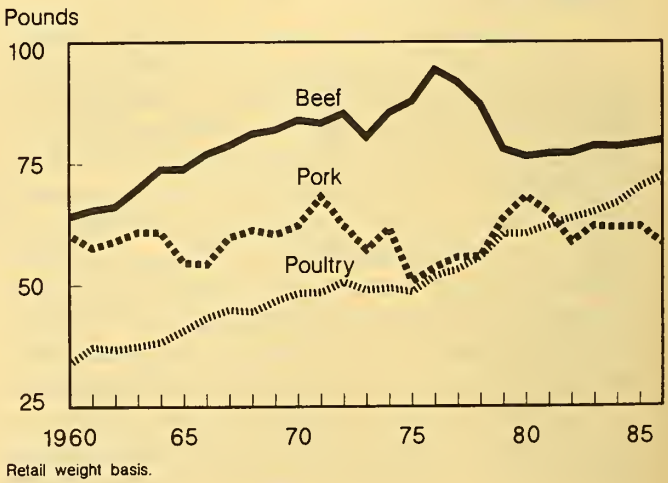
Experimental work has indicated that animal agriculture can be changed through the use of laboratory-synthesized compounds normally produced by the animal itself. One class of these compounds, repartitioning agents, have the potential, if results achieved in the laboratory can be duplicated in the commercial sector, to alter the composition of product produced and possibly the cost structure in pork production. However, before these agents are accepted for commercial use, there are a number of factors which must be considered. The two main categories are applicability and consumer acceptance.

There are two classes of repartitioning agents, each with its own advantages and disadvantages. This paper will present a survey of some of the potential benefits as shown in scientific studies, as well as concerns which might arise from introduction of repartitioning agents in the U.S. hog sector.

Over the past 25 years, U.S. meat consumption per capita has increased steadily. During this period, pork consumption per capita has fluctuated between 51 and 68 pounds but shown little growth over time, while beef consumption increased slightly and consumption of poultry increased dramatically (Figure 1).

Much of the decline in pork's share of meat consumption can be traced to two factors. First, pork tends to cost more relative to poultry because, among other factors, hogs require almost twice as much feed per pound of gain as broilers. There also have been substantial increases in productivity in the poultry sector aided by vertical interration and automation that have not been matched in the hog sector. Second, consumers have become far more health conscious, and perceive pork as a "fatty" meat that is

U.S. Per Capita Meat Consumption



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detrimental to their health while perceiving poultry as more healthful than beef or pork. To enhance pork's image, packers and retailers are trimming more fat from retail cuts, and the industry has begun a promotional effort to dispel negative perceptions. Although trimming fat improves pork's appeal, the increased costs are passed on through higher retail prices.

Therefore, the pork industry is faced with a two-pronged task: producing a product desired by consumers and increasing productivity to make pork price competitive. Lean pork is the desired product. Based upon research performed by industry and universities, pork with decreased fat would "... not only be acceptable to consumers, but that it would be sought after as well." (17). Productivity is measured as the quantity of output which can be produced with a given input. Although there have been advances in productivity in hog production that have reduced both the labor and capital required per unit of output, the conversion of feed to meat is biological and not mechanical.

Significant progress has been made in reducing fat and increasing feed efficiency of U.S. hogs through selective breeding. However, genetic selection is a time-consuming procedure and there appears to be a tradeoff between feed efficiency (pounds of feed per pound of gain) and lean muscle production. Attempts to breed very lean hogs in the late 1960's and 70's resulted in a high incidence of porcine stress syndrome, a genetic condition with symptoms similar to malignant hyperthermia in humans. (17). Currently, crossbreeding has alleviated this condition.

Scientific advances now have made it possible to synthesize the chemicals naturally occurring in hogs that regulate biological functions. One class of these chemicals, known as repartitioning agents, appear to provide the capacity to produce a lean, efficient hog by altering the way in which nutrients are partitioned. It is possible to increase the productivity of the pig, reducing both the time necessary to produce a market weight hog and the quantity of inputs (primarily feed) required. Researchers have achieved dramatic results in a controlled environment. However, practical application to the U.S. hog sector will require an efficient delivery system, management changes, and consumer acceptance of both a "new" pork and a different production process. In addition, the use of repartitioning agents will require the approval of the Food and Drug Administration before it can become commercially available.

Repartitioning Agents

Current research on repartitioning agents has identified two classes of compounds, beta adrenergic agonists (beta agonists) and growth hormone (somatotropin), which can be synthesized in a laboratory. Although both beta agonists and somatotropin increase the lean-to-fat ratio of a carcass and in many cases decrease feed consumption, each agent has its own advantages and disadvantages.

Laboratory synthesized beta agonists are small organic compounds that can cause increased protein deposition and a reduction in fat. Although there is considerable uncertainty as to the precise mechanism by which beta-agonists reduce feed intake and carcass fat and increase weight gain and muscle mass, it has been postulated that they increase the turnover rate rate of body fat, provide energy used to increase the size of muscle mass, and increase blood flow to muscles and organs, thereby permitting increased delivery of nutrients.

When mixed with feed and administered to pigs, all brands of synthetic agonists reduced fat mass by approximately 10 percent and increased muscle mass (table 1). In the case of cimaterol and ractopamine, feed consumption declined even though daily gain increased.

Recombinant somatotropin, produced through recombinant DNA technology, is very similar to natural somatotropin, a growth-regulating protein produced and secreted by the pituitary gland. Somatotropin affects growth either by converting fat tissue into energy or by reducing the systhesis of fat and stimulating the release of another hormone which increases the protein content of tissues (2, 18).

In three separate experiments, injection of both recombinant and natural porcine somatotropin (pST) resulted in dramatic increases in both feed efficiency and muscle

Table 1. Approximate response of pigs to oral beta-adrenergic agonists*

Agonist*	Daily gain	Feed consumption	Feed efficiency	Protein/ muscle mass	Fat mass
			Percent		
clenbuterol	0	n.a.	0	9	-10
cimaterol	2	-5	5	7	-10
ractopamine	7	-4	10	10	-12
L 644,969	n.a.	n.a.	10	10	- 9

* From Mersmann (14).
** Tradename.

Table 2. Response of pigs to porcine somatotropin - Percentage deviations from control animals

	Dosage (ug/kg/day)*						
	30**	30***	60**	70***	100****	120**	200**
Backfat	-8.4	-8.3	-12.7	-12.5	-23.8	-22.6	-32.2
Loin eye area	2.7	13.6	4.8	22.7	12.8	9.8	12.2
Feed/gain ratio	-6.6	-10.3	-17.6	-17.2	-23.8	-27.8	-29.1
Avg daily gain	2.1	5.6	19.0	14.4	16.1	15.8	10.5
Feed intake	-6.6	-5.4	-3.5	-5.4	-12.9	-16.7	-21.9

*Micrograms per kilogram live bodyweight per day.
**R. Dean Boyd, Diane Wray-Cahen, Dale E. Bauman, Donald Beermann and Larry M. Souza. Impact of Somatotropin on Growth Performance and Carcass Composition of Growing Swine. Paper presented at the Minnesota Nutrition Conference. September, 1987.
***Terry D. Etherton, James P. Wiggins, Christina M. Evock, Chung S. Chung, John F. Rebhun, Paul E. Walton and Norman C. Steele. Stimulation of Pig Growth Performance by Porcine Growth Hormone: Determination of the Dose-Response Relationship. Journal of Animal Science. 64 (1987):433-443.
****Norman C. Steele, Roger G. Campbell and Thomas J. Caperna. Update of Porcine Growth Hormone Research: Practical and Biological Implications. Paper presented at the Cornell Nutrition Conference. 1987.

size and concurrent decreases in feed intake and fat area (table 2).

When comparing results of the three experiments, pigs used by Boyd weighed between 100 and 220 pounds during the experiments. Etherton and Steele used lighter swine (88 170 pounds and 55 120 pounds, respectively). Even with differences in methodology, it is still possible to draw some broad conclusions as to the effect of pST upon swine development.

Boyd, whose experiments covered the widest range of dosages, indicated that backfat thickness declined in a linear manner across the entire range. Results from other researchers tend to confirm this finding. Boyd also noted that the size of the loin eye area increased dramatically as dosage increased but leveled off at 120 micrograms. Steele, injecting a single dosage based upon the optimal reported by Boyd and Etherton, presents evidence that the leveling off occurs at approximately 100 micrograms. Although research performed by Etherton resulted in greater percentage increases in loin eye size, there can be no question that pST results in a significantly larger loin eye.

There is general agreement that feed efficiency improves considerably with the introduction of pST. However, at higher doses Boyd notes that the feed/gain ratio improves at a decreasing rate. Although feed intake continues to decline at progressively higher doses of pST, at doses exceeding 120 micrograms gains from reduced feed intake are offset by declines in average daily gain. Based upon the results of these tests and breakpoint analysis used in nutrient requirement studies, Boyd (3) estimates that the optimum dose of porcine somatotropin to achieve feed efficiency is approximately 96 micrograms per kilogram of bodyweight per day.

Comparison of Somatotropin and Beta-Agonists

Each class of repartitioning agent has its advantages and disadvantages (table 3). Since beta-agonists are orally administered, introduction into the hog sector is as easy as mixing a load of feed. Somatotropin on the other hand, cannot be added to feed; if consumed orally it will be broken down in the digestive tract and rendered inactive. All research work performed with pST required daily injection. Given the size of the average hog production facility, daily injection is obviously impractical. Researchers in the pharmaceutical industry are attempting to develop an implant that would provide timed release of pST. Information about the nature of the implants and the degree of progress are proprietary.

Although beta agonists are easier to administer, the effects on feed efficiency and carcass characteristics are not as pronounced

Table 3. Advantages and disadvantages of repartitioning agents

Beta-agonists	Somatotropin
Advantages:	Advantages:
Easy to administer	More pronounced effects
Lower cost	Small residue risk
Disadvantages:	Disadvantages:
Withdrawal time	More management
Less pronounced effects	More handling of hog required
	Implant/injection required

as those with somatotropin. However, as a result of the fermentation process used to produce pST, Meltzer (16) indicates that pST will probably be more costly than beta-agonists.

Both types of repartitioning agents have a low danger of toxicity with respect to the animal In pST, toxicity was not found until the dosage exceeded twice the optimum level. In beta-agonists the danger level was more fifty times above probable level of use (16).

Mersmann and Bechtel state that given a short withdrawal period, residues do not appear to be a significant problem for the beta- agonists currently under investigation (15,1). Similarly, Meltzer states any residues in pST for a non-toxic dose would dissipate during a short withdrawal period (16). However, pST has the added advantage of being a protein which would be broken down and rendered inactive in the gastro-intestinal tract. Under these circumstances, the withdrawal time might be shorter than for beta- agonists.

There also are two other potential problems with beta- agonists. First, hoof lesions and lameness have been reported in experiments with several of the compounds. However, there is some uncertainty whether these problems will persist "when large numbers of pigs are exposed under a variety of husbandry conditions." (15)

There is also the potential for reversal of the effects on growth rate and feed efficiency during the withdrawal period. In a study by Jones et al. (13), hogs put through a 7- day withdrawal showed an increase in the feed/gain ratio and fat, and a decline in the size of the loin eye when compared to hogs given the dosage without withdrawal. Although the net effect was still greater than for the control animals, the mandated length of withdrawal will determine the degree of reversal and hence the benefits that can be accrued.

Steele investigated the effects of discontinuing the pST injections and finishing out the pigs. He found that during the 29 days following withdrawal, feed efficiency declined but remained 22 percent above the control animals (18).

Producer Considerations And Repartitioning Agents

All research presented indicated the additional benefits accrued from increasing the protein content in swine rations. Easter (9) performed a series of tests on pST-treated hogs and determined that feed efficiency was highest for rations containing 20 to 23 percent crude protein. Similar results were found in tests for some classes of beta- agonist. Easter notes that it may not be possible to have a single ration recommendation for a given phase of growth, but rather one that will vary with the level of repartitioning agent and desired carcass characteristics. This would increase the management requirements for the producer.

The reduction in feed per unit of gain will have a significant impact on producer cost. Using the 20 percent protein ration presented by Boyd (3) and the cost of production estimates derived by ERS, for an "optimal" dose, there would be an approximately 17-percent reduction in feed costs (assuming constant feed prices).

Another question that must be considered is the appropriate weight at which pST treatments should begin. Based upon his own and other research, Etherton notes that as a result of the interaction between somatotropin and fat tissue, pST appears to be more effective in heavier hogs (10).

Campbell and Steele (5,18) on the other hand, argue that maximum protein accretion occurs in pigs under 25 kg and that their research indicates that porcine somatotropin's strong suit is converting feed into protein, as opposed to breaking down fat.

The difference between Etherton's and Steele's conclusions has very important implications relating to the ease of adoption of the technology. First, there will be a significant reduction in the quantity of pST required if treatment can be started at 30 kg and completed at 60 kg. Since pST is administered by weight, completing "optimum dosage" treatment at 60 kg will use approximately 20 percent less pST than beginning the treatment at 60 kg and ending it just prior to slaughter. Although the actual cost per dose has not been determined, based upon preliminary research on bovine

somatotropin Meltzer indicates that the wholesale cost of pST will be approximately $2.00 per gram (16). Furthermore Steele argues that, if a withdrawal period is deemed necessary to alleviate consumer concerns or is mandated in licensing, a treatment which permits up to 40 days for withdrawal is advantageous (18).

However, there is a potential disadvantage to an early treatment program. Currently, there is considerable uncertainty as to the effects of pST upon breeding stock. In initial analysis done by McLaren (14), puberty appeared to be delayed by the injection of pST. Considerably more analysis is required, but if puberty is delayed gilts retained for breeding cannot receive pST. Producers using the early treatment program would be forced to make gilt retention decisions within 6 weeks after the birth of the gilt.

Environmentally, the somatotropin treated hog would be more sensitive to temperature at both ends of the scale. Curtis (7) indicates that although there would be increased heat production due to the higher rate of metabolism, reduced insulation from the decrease in subcutaneous fat would make the pig more sensitive to cool or cold environments. At the other end of the scale, the increased rate of heat production would override the cooling effect of reduced fat, and the pig would become more sensitive to warm or hot surroundings.

Conclusions

At first appearance, repartitioning agents offer significant opportunities to make pork more competitive with other meats in both costs and acceptance. However, the lower input costs and leaner meat cuts are counterbalanced by greater management requirements.

Although it is currently not possible to derive more than a "guesstimate" of the costs and benefits from the introduction of repartitioning agents, the feed cost reductions resulting from more efficient feed utilization would be expected to result in reduced costs to the consumer. Initially, prices might rise if a differentiated "low-fat" pork can command a premium relative to non-treated pork. However, increased profitability will encourage expanded production by those producers who have adopted the technology, and adoption by those who have not.

Furthermore, barring health concerns, the technology could be expected to freely diffuse across international borders. Given its similarity to U.S. production, Canadian pork production is particularly well suited to adopt such technology, and it would appear reasonable to expect increased production and competition in the United States and third party markets. Over time, these factors would be expected to have a depressing effect on prices.

However, repartitioning agents in general and somatotropin in particular are not cost-free. Management skills will become more important as producers are required to more closely monitor and regulate both the environment and nutrition of the treated animals. Additional record keeping will be required to determine proper time of implantation and removal and, if necessary, early determination of breeding animals. Increased labor will be required to implant and remove the agent; this will be offset somewhat by an approximately 15-day reduction in finishing to current market weights. At the current time the magnitude of the offset cannot be determined.

Reduced fat in pork could increase its appeal to consumers. In addition to an increase in the quantity demanded through lower prices, another desired effect of repartitioning agents will be an increase in demand as a result of offering consumers a more desirable product.

However, there is the issue of consumer acceptance of pork produced using repartitioning aients. Product safety is a major issue. There is growing concern over what many people consider to be the "adulteration" of the food supply; this is evident in the rise of premium priced "natural" or "chemical-free" food products in many markets. Without considerable research and unbiased education on the differences among growth promotants, public acceptance of repartitioning agents in the meat supply will be tempered by the recollection of the problems and issues surrounding the use of DES in beef production.

Taste and texture studies will be required. The research discussed above determined an "optimal dosage" for maximum feed efficiency and fat reduction. Taste and texture could be affected by fat reductions and a perceived decline in taste or texture could reduce consumer demand. Research will be necessary to determine the dosage which produces the most desirable product.

Based upon this early research, repartitioning agents would appear to hold great promise for the pork industry. Additional study is required to determine if the results achieved in a controlled environment are as great when the technology is transferred to the commercial sector. Adoption will depend upon producers' perceptions of the costs and benefits from adopting the technology. To some extent, these perceptions can be influenced by a marketing system that provides price incentives for producers of lean pork. Consumer acceptance will depend upon a secure knowledge of the safety of repartitioning agents as well desirable sensory attributes. Considerable work is yet to be done in providing answers to the vast number of questions spawned by this new technology.

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Table 30--Average retail price per pound of specified meat cuts

Year and item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
						Dollars						
Choice Beef:												
Ground chuck												
1986	1.66	1.66	1.66	1.63	1.59	1.60	1.61	1.62	1.64	1.65	1.66	1.65
1987	1.69	1.65	1.68	1.70	1.70	1.71	1.71	1.72	1.72	1.71	1.74	1.75
Ground beef												
1986	1.28	1.26	1.27	1.22	1.19	1.16	1.19	1.22	1.23	1.23	1.28	1.26
1987	1.30	1.27	1.28	1.29	1.32	1.30	1.31	1.32	1.32	1.33	1.35	1.32
Chuck roast, bone in												
1986	1.68	1.64	1.65	1.53	1.54	1.53	1.50	1.54	1.50	1.58	1.66	1.68
1987	1.68	1.64	1.63	1.70	1.65	1.71	1.70	1.66	1.67	1.72	1.71	1.66
Round roast, boneless												
1986	2.55	2.47	2.46	2.41	2.44	2.33	2.39	2.40	2.46	2.49	2.47	2.47
1987	2.54	2.47	2.49	2.45	2.59	2.56	2.50	2.51	2.57	2.58	2.58	2.56
Rib roast, bone in												
1986	3.36	3.33	3.20	3.29	3.16	3.21	3.19	3.29	3.28	3.18	3.31	3.39
1987	3.44	3.44	3.37	3.29	3.48	3.64	3.69	3.67	3.60	3.63	3.64	3.57
Round steak, boneless												
1986	2.91	2.82	2.82	2.75	2.74	2.74	2.66	2.69	2.76	2.79	2.75	2.80
1987	2.80	2.80	2.76	2.81	2.94	2.96	2.91	2.93	2.92	2.96	2.92	2.93
Sirloin steak, bone in												
1986	2.90	2.97	2.84	2.90	2.99	3.01	3.07	3.01	3.01	2.94	2.91	2.93
1987	2.81	2.96	2.87	3.02	3.22	3.44	3.36	3.23	3.26	3.12	3.15	3.16
Chuck steak, bone in												
1986	1.72	1.58	1.62	1.52	1.48	1.50	1.47	1.60	1.55	1.62	1.69	1.69
1987	1.71	1.65	1.64	1.69	1.59	1.62	1.62	1.61	1.61	1.61	1.62	1.62
T-Bone steak, bone in												
1986	3.99	3.91	3.87	3.90	3.96	3.99	4.06	4.11	4.09	3.85	3.92	3.97
1987	3.86	3.79	3.83	4.01	4.33	4.64	4.77	4.45	4.37	4.31	4.29	4.27
Porterhouse steak, bone in												
1986	4.08	3.96	3.92	3.96	4.16	4.22	4.29	4.29	4.28	4.26	4.29	4.17
1987	4.22	4.19	4.22	4.26	4.36	4.44	4.44	4.42	4.39	4.40	4.44	4.43
Pork:												
Bacon, sliced												
1986	1.94	1.96	1.89	1.87	1.87	1.95	2.16	2.33	2.37	2.30	2.19	2.16
1987	2.12	2.09	2.10	2.08	2.11	2.13	2.23	2.28	2.28	2.19	2.07	2.02
Chops, center cut												
1986	2.47	2.42	2.38	2.36	2.40	2.48	2.76	2.81	2.82	2.74	2.72	2.75
1987	2.72	2.70	2.64	2.74	2.78	2.97	3.01	3.00	2.98	2.92	2.74	2.67
Ham, rump or shank half												
1986	1.38	1.42	1.38	1.30	1.32	1.33	1.46	1.52	1.58	1.66	1.68	1.63
1987	1.60	1.59	1.50	1.36	1.44	1.50	1.52	1.56	1.58	1.62	1.65	1.60
Sirloin roast, bone in												
1986	1.66	1.65	1.65	1.64	1.65	1.67	1.90	1.89	1.89	1.89	1.87	1.91
1987	1.90	1.82	1.81	1.89	1.92	1.95	2.02	2.04	2.05	2.01	1.95	1.91
Shoulder picnic, bone in												
1986	1.06	1.03	1.00	1.00	.96	.99	1.01	1.12	1.14	1.18	1.18	1.18
1987	1.15	1.10	1.06	1.03	1.08	1.03	1.11	1.14	1.16	1.19	1.16	1.16
Sausage, fresh, pork, loose												
1986	1.84	1.79	1.86	1.78	1.77	1.76	1.85	1.94	2.05	2.10	2.07	2.05
1987	2.01	2.02	1.99	1.97	1.98	1.94	2.00	2.02	2.01	1.92	1.97	1.99
Miscellaneous cuts:												
Ham, canned, 3 or 5 lb												
1986	2.56	2.68	2.58	2.57	2.55	2.57	2.58	2.64	2.70	2.82	2.94	2.92
1987	2.84	2.85	2.83	2.77	2.74	2.76	2.83	2.84	2.83	2.85	2.78	2.72
Frankfurters, all meat												
1986	1.91	1.92	1.88	1.85	1.87	1.89	1.91	1.96	2.00	1.99	1.98	2.02
1987	1.98	1.99	1.96	1.98	1.96	2.00	1.91	2.01	1.98	2.04	2.04	2.02
Bologna												
1986	2.14	2.09	2.12	2.12	2.10	2.11	2.15	2.19	2.23	2.25	2.27	2.27
1987	2.22	2.17	2.19	2.15	2.14	2.15	2.21	2.21	2.21	2.20	2.21	2.24
Beef liver												
1986	.99	.96	.95	.97	.96	.97	.98	.94	.95	.98	1.01	1.01
1987	1.02	1.00	1.03	1.02	1.04	1.03	1.03	1.03	1.03	1.05	1.02	1.03

Table 31--Total red meat supply and utilization, carcass and retail weight 1/

Year	Production: Commercial	Production: Farm	Beginning stocks	Imports	Total supply	Exports	Shipments	Military	Ending stocks	Total disappearance	Per capita: Carcass weight	Per capita: Retail weight
	Million pounds										Pounds	
Beef												
1986												
III	6,273	24	322	640	7,259	144	14	30	292	6,779	28.3	20.7
IV	5,925	55	292	505	6,777	193	13	23	311	6,237	26.0	19.0
Year	24,213	158	317	2,129	26,817	521	52	110	311	25,823	107.9	78.7
1987												
I	5,756	55	311	543	6,664	127	14	32	311	6,181	25.7	18.7
II	5,737	24	311	627	6,699	136	13	23	253	6,275	26.0	19.0
III	6,063	24	253	681	7,021	159	14	26	287	6,535	27.0	19.7
IV	5,870	55	287	399	6,611	209	15	25	300	6,062	25.0	18.3
Year 2/	23,426	158	311	2,250	26,145	630	56	105	300	25,054	103.7	75.7
1988												
Year 2/	22,350	158	300	2,275	25,083	500	60	110	325	24,088	98.9	72.1
Pork												
1986												
III	3,237	10	248	282	3,776	15	28	20	186	3,528	14.7	13.9
IV	3,623	23	186	314	4,146	27	41	17	197	3,863	16.1	15.2
Year	13,998	65	229	1,122	15,414	86	132	74	197	14,925	62.3	58.8
1987												
I	3,540	23	197	290	4,049	19	31	22	221	3,757	15.6	14.8
II	3,325	10	221	296	3,852	27	28	13	189	3,595	14.9	14.1
III	3,384	10	189	299	3,882	21	33	12	186	3,629	15.0	14.2
IV	4,065	23	186	315	4,589	33	35	20	260	4,241	17.5	16.4
Year 2/	14,314	65	197	1,200	15,776	100	127	67	260	15,223	63.0	59.2
1988												
Year 2/	15,275	65	260	1,300	16,900	120	140	80	275	16,285	66.8	62.7
Lamb and mutton												
1986												
III	81	1	14	8	104	1	1	0	14	89	.4	.3
IV	82	2	14	12	111	0	1	0	13	97	.4	.4
Year	331	7	13	41	392	2	2	0	13	375	1.6	1.4
1987												
I	76	2	13	13	104	0	1	0	14	89	.4	.3
II	75	1	14	12	102	0	1	0	11	89	.4	.3
III	77	1	11	8	97	0	1	0	7	89	.4	.3
IV	82	2	7	11	102	1	0	0	8	93	.4	.3
Year 2/	310	7	13	45	375	1	2	0	8	364	1.5	1.3
1988												
Year 2/	330	7	8	50	395	2	1	0	9	383	1.6	1.4
Veal												
1986												
III	129	2	9	4	144	2	0	2	7	134	.6	.5
IV	122	5	7	12	146	1	0	1	7	136	.6	.5
Year	509	15	11	27	562	5	1	6	7	543	2.3	1.9
1987												
I	113	5	7	6	131	2	0	2	6	122	.5	.4
II	101	2	6	4	113	2	0	1	4	106	.4	.4
III	100	2	4	6	112	1	0	0	4	107	.4	.4
IV	105	5	4	9	123	1	1	2	7	112	.5	.4
Year 2/	419	15	7	25	466	6	1	5	7	447	1.9	1.5
1988												
Year 2/	400	15	7	25	447	5	1	7	7	427	1.8	1.5
Total Red Meat:												
1986												
III	9,720	37	592	934	11,283	160	43	51	499	10,530	44.0	35.3
IV	9,752	85	499	843	11,179	222	55	42	528	10,333	43.0	35.0
Year	39,051	245	571	3,319	43,186	613	187	190	528	41,664	174.0	140.8
1987												
I	9,485	85	528	851	10,949	148	45	56	552	10,167	42.2	34.3
II	9,238	37	552	939	10,766	165	42	37	457	10,066	41.7	33.7
III	9,624	37	457	994	11,112	182	48	39	484	10,360	42.8	34.6
IV	10,082	85	484	734	11,425	244	51	47	575	10,508	43.4	35.4
Year 2/	38,469	245	528	3,520	42,761	737	186	177	575	41,087	170.1	137.7
1988												
Year 2/	38,355	245	575	3,650	42,825	627	202	197	616	41,183	169.0	137.7

1/ Totals may not add because of rounding. 2/ Forecast.

Table 32--Poultry supply and utilization 1/

Year	Total Slaughter	Beginning stocks	Total supply	Exports	Shipments	Military	Ending stocks	Total disappearance	Per capita Retail weight
				Million pounds					Pounds
Young Chicken									
1986									
III	3,635	23	3,658	132	42	10	25	3,450	14.4
IV	3,575	25	3,600	178	38	7	24	3,353	14.0
Year	14,316	27	14,342	566	149	35	24	13,568	56.7
1987									
I	3,750	24	3,774	141	39	8	25	3,560	14.8
II	3,926	25	3,951	198	32	7	24	3,690	15.3
III	3,973	24	3,997	223	40	7	28	3,698	15.3
IV	3,889	28	3,917	223	35	9	25	3,625	14.9
Year 2/	15,538	24	15,562	786	146	32	25	14,572	60.3
1988									
Year 2/	16,282	25	16,307	800	140	36	25	15,306	62.7
Other chicken									
1986									
III	148	157	305	4	1	1	147	152	.6
IV	146	147	293	5	1	0	163	125	.5
Year	629	144	773	16	3	2	163	589	2.5
1987									
I	157	163	320	5	1	1	172	142	.6
II	185	172	357	6	1	1	182	169	.7
III	153	182	335	3	0	2	166	164	.7
IV	160	166	326	3	1	0	155	167	.7
Year 2/	656	163	819	16	2	3	155	642	2.7
1988									
Year 2/	664	155	819	30	4	1	135	649	2.7
Total chicken									
1986									
III	3,783	180	3,963	136	42	10	172	3,602	15.0
IV	3,721	172	3,893	183	38	8	187	3,477	14.8
Year	14,945	171	15,116	582	152	37	187	14,157	59.1
1987									
I	3,907	187	4,094	147	40	9	197	3,702	15.4
II	4,111	197	4,309	204	32	8	206	3,859	16.0
III	4,126	206	4,332	226	40	9	194	3,862	16.0
IV	4,049	194	4,243	226	36	9	180	3,792	15.6
Year 2/	16,194	187	16,381	802	148	35	180	15,214	62.9
1988									
Year 2/	16,946	180	17,126	830	144	37	160	15,955	65.4
Turkey									
1986									
III	982	298	1,280	7	1	5	512	755	3.1
IV	958	512	1,470	10	3	2	178	1,277	5.3
Year	3,271	150	3,422	27	4	10	178	3,202	13.4
1987									
I	692	178	871	6	0	2	227	636	2.6
II	900	227	1,126	7	0	3	381	735	3.0
III	1,140	381	1,521	7	0	6	640	867	3.6
IV	1,128	640	1,768	10	1	5	300	1,452	6.0
Year 2/	3,860	178	4,038	30	2	16	300	3,691	15.3
1988									
Year 2/	4,281	300	4,581	30	4	16	250	4,281	17.5
Total poultry									
1986									
III	4,765	478	5,243	143	43	15	684	4,357	18.2
IV	4,679	684	5,363	193	41	9	365	4,754	19.8
Year	18,216	321	18,537	609	156	47	365	17,359	72.5
1987									
I	4,600	365	4,965	153	40	10	424	4,338	18.0
II	5,011	424	5,435	211	32	10	587	4,594	19.0
III	5,266	587	5,853	232	41	16	835	4,729	19.5
IV	5,176	835	6,011	236	37	14	480	5,244	21.6
Year 2/	20,054	365	20,419	832	150	51	480	18,906	78.2
1988									
Year 2/	21,227	480	21,707	860	148	53	410	20,236	82.9

1/ Totals may not add because of rounding. 2/ Forecast.

Table 33--Total red meat and poultry supply and utilization, retail weight 1/

Year	Total Production	Beginning stocks	Imports	Total supply	Exports	Shipments	Military	Ending stocks	Total disappearance	Per capita Retail weight
				Million pounds						Pounds
1986										
III	14,517	1,070	934	16,521	304	86	67	1,182	14,882	53.5
IV	14,516	1,182	843	16,542	415	96	51	893	15,087	54.8
Year	57,512	892	3,319	61,723	1,223	343	237	897	59,023	213.3
1987										
I	14,171	893	851	15,915	301	86	66	976	14,486	52.3
II	14,286	976	939	16,201	376	74	48	1,044	14,660	52.7
III	14,928	1,044	994	16,966	414	88	54	1,319	15,090	54.1
IV	15,344	1,319	734	17,437	480	88	61	1,055	15,753	57.0
Year 2/	58,768	892	3,520	63,180	1,569	337	229	1,055	59,992	215.9
1988										
Year /2	59,827	1,055	3,650	64,532	1,487	350	250	1,026	61,419	220.8

1/ Totals may not add because of rounding. 2/ Forecast.

Table 34--Selected price statistics for meat animals and meat, 1987

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
						Dollars per cwt						
Slaughter Steers:												
Omaha												
Choice, 900-1100 lb	58.79	61.02	61.59	66.30	70.66	68.83	65.80	64.50	64.81	64.81	64.20	63.93
Select, 900-1100 lb	52.88	55.23	56.40	59.35	62.62	61.27	58.40	58.21	59.38	59.90	59.50	59.25
California												
Choice, 900-1100 lb	60.19	63.45	64.28	68.35	70.47	69.06	65.80	66.38	66.90	65.94	65.88	65.15
Colorado												
Choice, 900-1100 lb	60.17	63.62	64.80	69.91	71.95	70.01	65.74	65.16	66.41	66.94	66.87	65.42
Texas												
Choice, 900-1100 lb	60.61	64.09	65.26	70.39	71.80	69.96	65.70	65.12	66.46	67.00	67.09	66.12
Slaughter heifers:												
Omaha												
Choice, 900-1100 lb	58.18	60.74	61.58	65.99	70.12	69.42	65.69	64.19	64.31	64.43	63.79	63.63
Select, 700-900 lb	53.83	56.08	56.83	61.48	64.86	63.42	61.12	60.58	61.08	61.13	60.63	60.22
Cows:												
Omaha												
Commercial	40.45	43.07	45.81	44.37	44.05	43.31	45.25	46.97	47.83	46.25	44.56	46.20
Utility	39.79	42.29	45.01	44.23	44.36	44.72	45.64	46.35	47.62	46.41	44.83	46.69
Cutter	37.49	40.24	42.91	42.33	42.85	43.14	44.60	45.30	45.42	44.52	42.93	45.31
Canner	33.28	35.02	37.61	38.00	37.95	38.17	40.36	41.23	41.79	40.25	38.97	41.30
Vealers:												
Choice, So. St. Paul	65.94	68.28	70.00	75.00	90.00	90.63	77.50	79.22	80.25	82.50	82.50	83.00
Feeder steers: 1/												
Kansas City												
Medium No. 1,												
400-500 lb	73.38	76.38	79.38	81.20	83.06	84.33	87.33	88.13	92.40	87.75	89.33	87.30
600-700 lb	69.00	71.38	71.13	72.90	73.38	74.00	76.20	79.38	81.50	77.00	79.50	78.90
All weights and grades	65.75	69.01	68.47	70.56	70.53	70.21	71.22	75.31	77.10	73.21	74.92	73.69
Amarillo												
Medium No. 1,												
600-700 lb	66.47	70.31	70.56	71.48	69.63	71.19	75.18	77.38	80.90	75.63	73.84	74.75
Georgia Auctions												
Medium No. 1,												
600-700 lb	62.38	65.88	66.75	67.20	67.25	69.25	70.13	72.75	75.60	70.63	72.13	71.67
Medium No. 2,												
400-500 lb	62.50	68.38	71.50	70.50	72.63	72.00	75.63	76.75	80.40	74.00	78.50	77.33
Feeder heifers:												
Kansas City												
Medium No. 1,												
400-500 lb	65.13	69.13	71.63	72.80	74.63	74.33	75.25	78.50	82.40	77.06	78.67	80.20
600-700 lb	63.19	65.13	65.75	66.80	67.63	68.25	70.40	75.00	74.00	72.81	74.83	74.20
Slaughter hogs:												
Barrows and gilts												
Omaha No. 1 & 2,												
210-240 lb	49.31	49.71	48.83	51.91	55.81	60.82	62.20	60.62	55.29	49.20	42.07	42.71
All weights	47.33	48.68	48.15	51.55	55.39	60.70	61.72	60.50	54.63	48.97	40.57	41.35
Sioux City	47.56	49.08	48.67	52.10	55.79	61.37	62.69	60.56	55.19	49.28	40.74	41.56
7 markets 2/	47.39	48.73	48.22	51.85	55.58	61.08	61.85	60.35	54.72	48.75	40.65	41.14
Sows:												
7 markets 2/	43.94	42.38	42.82	46.42	46.26	46.35	48.09	49.76	49.72	44.87	35.12	32.96
Feeder pigs:												
No. 1 & 2, So. Mo.,												
40-50 lb (per hd.)	47.00	53.96	54.98	56.00	51.66	45.89	45.60	48.05	47.28	41.53	36.56	31.74
Slaughter lambs:												
Choice, San Angelo	78.56	75.75	86.50	93.12	94.50	84.83	76.83	71.83	70.05	66.25	65.00	73.83
Choice, So. St. Paul	76.55	75.80	80.60	81.88	87.73	80.45	72.34	71.65	66.86	65.23	66.30	74.49
Ewes, Good,												
San Angelo	39.81	41.25	42.50	39.05	36.25	34.62	36.62	38.67	39.81	37.12	37.83	38.08
So. St. Paul	20.50	20.50	20.50	20.50	20.50	19.85	19.50	19.95	21.10	22.00	22.00	23.20
Feeder lambs:												
Choice, San Angelo	95.88	99.50	108.50	109.40	112.62	94.56	98.75	96.75	102.55	102.00	99.50	105.83
Choice, So. St. Paul	85.98	86.93	87.50	87.58	92.10	90.40	84.49	85.00	88.00	93.00	95.63	101.17

Continued--

Table 34--Selected price statistics for meat animals and meat, 1987--Continued

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
						Dollars per cwt						
Farm prices:												
Beef cattle	56.40	58.80	59.30	62.60	63.00	62.50	61.10	61.90	63.70	62.90	62.00	61.90
Calves	66.40	70.60	72.50	75.10	77.30	78.80	80.30	82.30	85.90	81.40	82.90	83.70
Hogs	47.20	48.20	47.40	50.80	54.40	60.30	59.60	58.60	54.30	48.90	40.60	40.80
Sheep	31.50	32.20	30.70	28.60	28.30	25.70	28.50	32.00	32.50	31.50	30.90	31.30
Lambs	76.60	76.00	80.80	86.10	90.10	83.50	78.70	76.10	76.80	71.90	65.70	71.50
Meat prices:												
Wholesale												
Central U.S. markets												
Steer beef, Choice, 600-700 lb	89.70	91.69	92.86	100.56	107.80	105.71	99.29	95.45	96.87	96.77	95.34	94.50
Heifer beef, Choice 500-600 lb	87.83	90.38	91.85	99.88	107.55	104.73	98.18	94.04	96.15	96.03	94.16	93.73
Cow beef, Canner and Cutter	77.92	80.89	84.58	82.19	82.05	84.15	84.51	85.63	86.82	83.80	83.41	88.50
Pork loins, 14-17 lb 4/	98.29	99.40	93.25	102.21	120.77	124.38	121.73	123.50	122.66	103.49	80.35	84.68
Pork bellies, 12-14 lb	66.32	57.81	60.02	65.79	67.21	78.44	83.62	80.46	59.74	49.39	45.86	42.60
Hams, skinned, 14-17 lb	65.75	65.43	71.97	72.66	70.98	78.91	79.93	86.15	93.58	97.81	96.36	91.98
East Coast:												
Lamb, Choice and Prime, 35-45 lb	160.21	158.96	168.75	177.60	179.00	165.00	152.00	146.25	144.50	145.69	145.38	153.30
55-65 lb	153.96	151.46	161.25	167.40	173.00	162.00	148.25	141.00	137.60	134.56	129.56	144.90
West Coast:												
Steer beef, Choice, 600-700 lb	93.38	97.38	98.75	104.90	108.75	109.44	106.00	nq	103.00	101.33	nq	nq
						Cents per lb						
Retail												
Beef, Choice	236.6	233.6	233.6	236.8	243.4	249.4	248.2	245.4	245.5	245.7	246.6	245.3
Pork	188.1	185.6	181.3	178.9	183.7	187.6	193.6	196.2	196.9	194.4	189.2	185.6
						1967=100						
Price indexes: (BLS)												
Retail meats	288.6	285.3	286.4	286.9	291.8	297.1	299.8	301.0	300.7	300.2	298.4	296.4
Beef and veal	282.7	280.7	282.7	285.8	292.6	297.6	297.7	296.2	295.1	296.3	298.3	298.1
Pork	294.0	289.8	287.2	284.4	289.4	297.7	305.8	308.3	309.4	304.0	295.1	289.0
Other meats	290.3	285.5	290.2	289.2	289.0	290.3	291.5	297.5	296.9	299.3	299.2	299.0
Poultry	238.4	237.0	234.1	231.1	230.5	228.3	226.1	230.0	229.1	227.8	219.8	219.7
Livestock-feed ratios, Omaha: 3/												
Beef steer-corn	40.5	44.0	41.6	42.3	40.1	38.8	41.0	44.0	42.8	41.2	38.4	36.7
Hog-corn	32.7	35.1	32.6	32.7	31.6	34.3	38.4	41.3	36.3	31.0	24.3	23.8

1/ Reflects new feeder cattle grades. 2/ St. Louis N.S.Y., Kansas City, Omaha, Sioux City, So. St. Joseph, So. St. Paul, and Indianapolis. 3/ Bushels of No. 2 yellow corn equivalent in value to 100 pounds live weight.

Table 35--Selected marketings, slaughter, stocks, and trade for meat animals and meat, 1987

Item	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
						1,000 head					
Federally inspected:											
Slaughter											
Cattle	3,084	2,564	2,805	2,875	2,780	2,945	3,009	2,972	2,977	3,024	2,640
Steers	1,476	1,237	1,365	1,474	1,392	1,482	1,517	1,451	1,381	1,460	1,260
Heifers	970	794	862	828	825	874	889	932	1,023	929	784
Cows	586	484	523	517	505	531	545	532	511	573	546
Bulls and stags	53	49	56	57	58	58	58	56	62	62	50
Calves	248	225	251	215	189	214	220	202	229	233	211
Sheep and lambs	418	391	432	477	363	407	411	400	459	446	399
Hogs	6,723	5,886	6,786	6,492	5,916	5,987	6,019	6,019	6,855	7,542	7,121
Percentage sows	3.9	4.0	3.7	4.0	4.2	5.3	5.6	5.8	4.9	4.0	3.9
						Pounds					
Average live wt per head											
Cattle	1,114	1,113	1,111	1,097	1,091	1,089	1,096	1,103	1,118	1,123	1,126
Calves	240	241	232	243	255	251	238	227	237	241	233
Sheep and lambs	118	119	122	117	117	116	118	118	120	122	122
Hogs	251	248	246	247	247	248	246	244	246	249	252
Average dressed wt											
Beef	663	663	663	654	650	650	656	662	670	677	671
Veal	145	147	141	146	156	152	146	137	143	146	142
Lamb and mutton	60	60	62	59	59	58	59	59	61	62	62
Pork	181	177	177	176	177	177	176	175	175	177	180
						Million pounds					
Production											
Beef	2,038	1,693	1,851	1,874	1,800	1,908	1,966	1,959	1,988	2,038	1,766
Veal	35	32	35	31	29	32	31	27	32	33	29
Lamb and mutton	25	23	26	28	21	23	24	24	28	27	25
Pork	1,211	1,042	1,196	1,141	1,043	1,058	1,055	1,048	1,199	1,333	1,278
Commercial: 1/						1,000 head					
Slaughter											
Cattle	3,199	2,662	2,904	2,971	2,872	3,035	3,098	3,054	3,070	3,131	2,752
Calves	263	239	266	228	202	227	232	214	243	249	223
Sheep and Lambs	428	400	442	496	373	421	426	416	474	460	411
Hogs	6,917	6,055	6,966	6,665	6,078	6,158	6,187	6,176	7,030	7,723	7,321
						Million pounds					
Production											
Beef	2,102	1,747	1,907	1,928	1,851	1,958	2,017	2,005	2,041	2,098	1,829
Veal	39	36	38	34	32	35	34	30	36	37	32
Lamb and mutton	25	24	27	29	22	24	25	24	28	28	25
Pork	1,244	1,070	1,226	1,169	1,070	1,086	1,082	1,074	1,228	1,363	1,312
Cold storage stocks: 2/											
Beef	321	306	311	312	280	253	279	269	286	307	303
Veal	7	7	6	6	5	4	4	4	4	4	5
Lamb and mutton	12	14	14	13	13	11	9	8	7	7	9
Pork	218	229	221	218	219	189	181	175	186	212	249
Total meat	598	599	596	591	559	498	516	495	523	575	609
Trade:											
Imports (carcass wt)											
Beef	161.3	187.3	194.3	199.4	189.6	238.1	252.5	215.1	213.3	188.5	
Veal	3.2	1.5	1.4	1.4	1.4	1.1	1.4	1.2	3.5	3.5	
Lamb and mutton	3.3	4.3	5.0	4.3	3.9	3.3	2.9	2.3	3.6	2.6	
Pork	98.6	89.3	101.9	102.7	90.1	103.4	101.7	97.1	100.6	111.3	
Exports (carcass wt)											
Beef	52.4	35.4	38.6	41.1	48.6	46.0	52.7	50.9	55.7	63.7	
Veal	.5	.7	.7	.8	.5	.5	.4	.3	.4	.2	
Lamb and mutton	.2	.1	.1	.1	.1	.1	.1	.2	.1	.2	
Pork	6.7	5.1	7.1	9.2	9.6	8.3	6.8	5.7	8.6	12.2	

1/ Federally inspected and other commercial. 2/ End of month. Beginning January 1977, excludes beef and pork stocks in cooler.

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